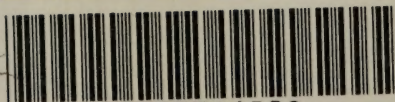


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THE
MEDICAL
TEMPERANCE
JOURNAL.

VOL. XVII.—1886.

LONDON:
NATIONAL TEMPERANCE PUBLICATION DEPOT,
337, STRAND, W.C.

THE MEDICAL TEMPERANCE JOURNAL

LONDON:
BARRETT, SONS AND CO., PRINTERS,
GREAT TOWER STREET, E.C.

VOL. XVII.—1886

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THE
MEDICAL TEMPERANCE JOURNAL.
October, 1883.

Original Contributions.

DR. W. ROBERTS ON ALCOHOL.

By J. JAMES RIDGE, M.D., B.A., B.Sc. Lond.

THE readers of this JOURNAL will naturally expect some notice of the address of Dr. Roberts at the annual meeting of the British Medical Association at Cardiff. In the course of an able and suggestive paper, as President of the Section of Pharmacology and Therapeutics, Dr. Roberts gave utterance to such a decided opinion of the value of alcohol both in health and disease that we have only the alternative, either to discover and expose some fallacy in his argument, or to cease to advocate total abstinence. I should have preferred to have waited until the details of his experiments on the influence of alcohol on digestion had been published, and that portion of his address must be dealt with when that promised publication takes place; but there are some statements which do not depend on these experiments, to which I may direct attention.

Dr. Roberts makes a very great deal of the "generalised food-customs" of the British races and the races of Western Europe, which are held up as the result of almost unerring instinct, and as supplying a model for perpetual imitation. I think he will have to reconsider this subject and largely modify the conclusion he draws from it. He says that "man, in regard to his bodily functions, is subject to the same laws as govern the life of the lower animals; and we cannot doubt that, in the formation of his dietetic habits, man is guided by the same kind of instincts as those which guide the rest of the animal creation in the choice of their food. The generalised food-customs of mankind are therefore not to be viewed as random practices adopted to please the palate, or to gratify an idle or vicious appetite. These customs must be regarded as the outcome of profound instincts, which correspond to important wants of the animal economy."

He farther on includes in these instinctive customs "the systematic use of alcoholic beverages."

I am quite ready to admit that many of the articles of daily diet are taken as the result of an instinctive craving, and that the common combinations of these articles are physiologically correct. Familiar illustrations are the combination of bread and cheese, of bacon and beans, of milk and porridge. But Dr. Roberts, we think, fails to remember that there is another very potent factor in the case which may or may not be conservative in its tendency. I allude to custom or fashion. The race of man is no new thing on the globe. If the dietetic habits of the human race are such necessarily beneficial things, we fail to see why the model we should aim to follow must of necessity be the habits of the British races, and of those races only in the latter half of the nineteenth century.

Again, the abundance or scarcity of particular articles of diet has largely modified national diet, and the result, so far from being always beneficial, has often been injurious. The existence in the Middle Ages of leprosy is attributed to a large extent to the too exclusively animal or fishy diet of the people.

It is also perfectly true that instinct may be misled. It is within the possibility of belief that the use of malt liquors and wines during the previous centuries may have been beneficial in so far as they contained those organic substances and salts needed to supplement a too exclusively animal diet. But if instinct prompted the use of these for such a purpose it was blind to the greater harm which they would do in other ways by reason of the alcohol contained in them. Before we accept their general use as *ipso facto* a proof of the benefit of alcohol, it is necessary to know that it was for the sake of the alcohol, and the alcohol only, that they were taken, and we may reasonably require some proof that artificially-produced beverages containing sugar in the process of putrefaction conferred advantages on those who consumed them, of which the total abstainers of the same nation were deprived. We shall ask for such proof in vain.

If it was for the sake of the salts of wine and beer that these things were taken, we can understand that there is no necessity for them now when fruits and vegetables of many kinds are part and parcel of the humblest diet, as they never were before.

But is it not a fact that "instinct," as a guiding principle, grows feebler as intelligence develops and reason takes the helm? For the true exhibition of instinct in diet we must look, not to the fully developed man, much less to the cloyed and vitiated *gourmand*, but to the unsophisticated and uncorrupted child. If we do this we find that alcoholic liquors are not appreciated, or are even disliked, unless they are made so sweet as to be more

like syrup than anything else. Alcohol, as alcohol, is not only not craved for, but instinctively avoided. Cold water will be greedily taken at every meal. The use of alcoholic drinks is entirely a matter of custom and imitation, while, as narcotics, they so alter the equilibrium of the nervous system, as to create a craving for themselves. Will Dr. Roberts seriously affirm that the common practice of smoking tobacco is instinctive, and therefore necessarily beneficial? If so, how did the human race get on before its introduction? How is it that hundreds of thousands of British men thrive without it? Why is it not equally necessary for women?

The people of Burmah are described as having a peculiar *penchant* for putrid fish. They bury the fish for a long period until it has thoroughly putrefied, and then dig it up and eat it with gusto. Surely, such a disgusting habit is no evidence of real advantage!

The fact that spirits are taken by large numbers of the people of this country is no proof of their necessity or value, because it can be easily shown that the desire for alcohol and the habit of taking it can be easily acquired by any individual and by any race. It is only needful to begin to take a little and the education will proceed with fearful rapidity. No one but the most prejudiced partisan will maintain that it was instinct which led the Indians of North America, the Maories of New Zealand, or which is now leading the various tribes of South Africa and the Congo basin, to destroy themselves with fire-water or Cape smoke. Even if we were in doubt about the previous diet of these nations, and admitted the possibility of such defects as alcohol could alone supply (I speak as a fool!) we could scarcely be so intensely foolish as to believe that the instinct of all animals is at fault in rejecting alcoholic liquors, because it is possible to teach them also both to like and to crave for such things. Alcohol is only one of a class of substances for which a craving is created by their regular use, and when that craving is established, whether in the mild form of dissatisfaction at the absence of an accustomed half-pint, or the intense longing desire of the dipsomaniac, proportionate efforts will be made to supply it, the intellect will eagerly grasp at any fallacy which seems to justify such efforts, and the judgment will often be so warped as to fail to perceive the fallacy.

The fact is that the prevalence of a custom, even the well-nigh universality of a habit, are no proof of their beneficial character. It has been shown, by the Duke of Argyll and by others, that the human race is specially liable to adopt practices, in the sphere of morals as well as in that of dietetics, which tend to the deterioration and even the ultimate destruction of the species, and true

wisdom will be shown in discriminating the good from the evil, and discountenancing the latter, and not in a reckless glorification of wide-spread, because agreeable, vices.

Dr. Roberts' reservation with regard to children might, I think, have saved him from saying that alcohol is necessary or even beneficial because it is so commonly used. For if children not only do not need it, but are better without it, how can it be necessary for adults? The utmost conclusion we can draw is only that it is less harmful. This conclusion derives some support from my experiments with alcohol on young vegetable cells, by which the injury done by infinitesimal quantities was absolutely demonstrated. The comparatively more numerous young and growing cells of the child render it more susceptible to the stunting influence of alcohol. But the body of the adult also contains a multitude of young cells, formed day by day for the repair of wasted tissue, and there is no reason to believe that these cells are any less susceptible to the influence of alcohol than the cells of the child.

But we are not compelled to rest our case simply on theory. We are able to point to the results of experience, both individual and general. There are hundreds, nay, thousands, of persons who at one time took alcohol in moderation and believed that it was both useful and necessary. For various reasons they have abandoned its use and find themselves better fitted in every way for the work of life. They are convinced now that the alcohol was doing them harm at the very time they believed it was doing them good. To say the least, it is certain that there are hundreds of thousands more who would have the same experience if they, too, abandoned the common custom. If, then, alcohol is not necessary for the millions of total abstainers, nor for the millions more who would be all the better for total abstinence, of what value is an argument simply based on its common use?

The unconscious injury being actually done by the moderate use of alcohol is, moreover, demonstrable in another way. Wherever two bodies of men, other things being equal, or the same body of men under as nearly as possible similar circumstances, except as to the use of alcohol, have been compared together, it has been invariably found that there is on the average less disease and longer life among the total abstainers. It is needless here to repeat the result of army statistics, military campaigns, sieges, naval expeditions, mercantile voyages, and the thousand and one cases in which alcohol has been voluntarily or compulsorily abstained from. All observers in such cases testify to the advantage derived, which is only another way of exposing the injurious action of alcohol when taken. Civil life

shows the same phenomenon. Let abstainers bind themselves together in friendly societies or life assurance companies, and instead of a higher rate of sickness and many premature deaths from this violation of a "profound instinct which corresponds to important wants of the human economy," as we should naturally expect from such rash conduct, we find just the contrary; that they have on the average less disease and longer life. And as this is a universal experience not of tens or dozens, but of thousands of all classes and all conditions, are we not justified in condemning the common use of alcoholic liquors as a baneful custom, and doing our utmost to banish it? We all know that some people, owing to some idiosyncrasy, cannot take some common articles of food, while, on the other hand, some can take poison with impunity. But I think there is now such abundant evidence of the injury done by alcohol, in proportion to its quantity, that we are entitled to regard its harmless use as the exception (if there be any) and not as the rule.

At all events, Dr. Roberts will have to explode the recorded experience, both collective and individual, of total abstainers, and produce far more cogent arguments than the prevalence of a vicious habit, before he can expect us to abandon our position.

We may be all the more sceptical when we find him capable of laying down as a general proposition that "persons who have been in the habit in their prime of taking a full allowance of stimulants gradually diminish the proportion as age creeps on." Such a sweeping assertion is incorrect, and to a very great extent the very reverse is true. He says that they ought to do so if they do not, because the omission to do so "tends to accelerate senile decay." What proof is there of this? Dr. Roberts does not give any; he merely affirms it. We know it to be true because we find that the average duration of life is greater under total abstinence; in other words, alcohol is the "genius of degeneration." But, though this is quite true, on what grounds can he dare to affirm that alcohol, which promotes senile decay in the aged, not only does not do so in the middle-aged, but acts quite beneficially? Who is to know when he must begin to reduce his allowance? And, if a "full allowance" promotes senile decay, on what grounds can he assert that a smaller quantity does nothing of the kind? I have proved, by the cress experiment that the injury done to cells is strictly proportional to the quantity acting on them, and that there is no amount below which alcohol stimulates or benefits growth. Why are we to accept Dr. Roberts's *ipse dixit* in opposition to facts and common sense?

And especially may we hesitate when he quietly states that "persons who during their youth and prime, have only used alcohol occasionally, or have abstained entirely from it, find advantage

in their declining years in a more systematic use of alcoholic beverages." What advantage? That of going sooner to another and a better world? I rarely find such an advantage appreciated. But all the facts point in that direction. No doubt he refers to the "comfort" and pleasure derived from these drinks. But is not this part of the great delusion under which the drinkers of alcohol labour at every age? It *seems* to give warmth, support, and vigour, while it is actually cooling the body, diminishing the capacity for work, and reducing vital power. It is the "mockery" by which so many unwise persons are deceived. It seems to be doing good while it is all the time doing harm. It

" keeps the word of promise to the ear
But breaks it to the hope."

I can only cursorily remark on the difference in the customs of men and women in regard to the quantity of alcohol, to which Dr. Roberts calls attention. He says that three-fourths, if not four-fifths, are consumed by men, and only one-fourth or one-fifth by women. If both act thus by "instinct," how is the difference to be explained? Does the instinct of men lead them to take too much, or are not the women so instinctive as men? If instinct is thus unreliable in its promptings, why must it be necessarily so correct in urging the use of alcohol, as to make it "not wise to depart . . . from this custom of the country"? Rather, does not the instinct of self-preservation warn us to leave such a tricky spirit alone, and rather bear the ills we have, than run the very obvious risks of beginning to tipple?



DR. PROSSER JAMES ON ALCOHOL.*

By AXEL GUSTAFSON.

THE increasing demand for completer knowledge of the effects of alcohol upon the human system, has served, probably more than any other cause, to stimulate inquiry into and reconsideration of the laws which govern physiological phenomena. The results of the latest researches show—even more emphatically than former investigation has done—that inquiries pursued beyond a certain limit lead to confusion, contradiction, and muddle.

* Lecturer on Materia Medica and Therapeutics at the London Hospital Medical College; Physician to the Hospital for Diseases of the Throat and Chest; late Physician to the North London Consumption Hospital; Consulting Physician to the Children's Home Infirmary, Victoria Park; Corresponding Member of the Academies of Medicine at Lyons, Madrid and Barcelona, &c., &c.

The boundary line for legitimate inquiry into the laws of life may perhaps best be defined by the term *individual responsibility*. In other words, whenever physiological inquiry has proceeded beyond the limit where, according to the consensus of the most enlightened and conscientious opinion, individual responsibility ceases—no definite results have been obtained, and such as have been reached have been questionable in proportion to the transgression of this limit; which seems to indicate that the Giver and Preserver of life is, and will remain, solely responsible for all that happens beyond the individual-responsibility limit. This limit plainly comprises the fit exercise of our powers of observation, choice, record, and example. Hence, it is little wonderful that the laws of birth, heredity, growth, decline, and death; the transformation of food into tissue; the adjustment of the component parts of the blood; the subtle differences between the various nerve currents, and, in a word, all the laws and the workings of laws governing the possibilities of man, which do not come within the limit of our *responsibilities*, are excluded from the field of knowledge, and that when the comprehension of them is attempted the result is and must be untrustworthy.

In the matter of food, or whatever may be taken upon the supposition that it is food, our responsibilities so far as *observation* is concerned lie in this: that we carefully study the effects upon ourselves of what we take in common with other people, and thereafter take only that from which we clearly derive benefit, and avoid what does not serve us, no matter what our tastes or inclinations may dictate. The tastes cannot be guides, because the laws of heredity may transfer vitiated tastes. As regards our *choice* from among the classes of substances which benefit us, we must see to it that they are sound in themselves and prepared hygienically. As to our responsibilities in the matter of *record*, we owe distinctly to the general welfare the contribution of the fruits of any valuable experience we have acquired in our dealings with ourselves. And as to *example* we are bound to obey the light we are sure to obtain by means of our faithful observance of all these laws of individual responsibility.

It seems sufficiently apparent that the chief reason why alcohol—and the various liquids of which it is a chief ingredient—has so long been, and still is, accepted by eminent authorities and respected popular teachers as suitable for internal uses, is because the laws of responsibility (as herein stated) have not been faithfully observed, and thus conflicting testimony as to the effects of alcohol in the human system has been widely and persistently promulgated; *i.e.*, results of researches beyond the limits indicated by individual responsibility, into the laws which govern organic life, of which no legitimate revelation has been or can be

made, and which *must* vary because, *not* knowledge, but more or less clever speculation is their foundation.

A recent work, "The Therapeutics of the Respiratory Passages," by Prosser James, M.D., contributed to Wood's Library of Standard Medical Authors, contains a valuable chapter on alcohol, showing in a striking manner the futility of researches beyond the individual-responsibility limit.

Dr. James asks, What becomes of alcohol? "Out of the body," he says, "it is easily converted into acetic acid;" but such result "has not been detected in the blood, nor indeed have other intermediate products of the combustion of alcohol." He even questions the theory that the "oxidation is carried at a single bound to its ultimate end, viz., the production of carbonic acid and water;" for he says, "the carbonic acid is not increased, indeed nearly all experiments point to the conclusion that it is rather decreased." Hence he observes, "Unless some other substance which would yield carbonic acid is prevented from doing so, the alcohol cannot be converted into gas." And he repeats his question, "What becomes of it?" [we must remember here that in this chapter Dr. James deals only with "quantities which fall short of intoxication,"] saying, "When only small quantities of alcohol are taken, it can scarcely be detected in the secretion." But although Dr. James frankly shows that he knows nothing whatsoever as to what becomes of alcohol, yet he assumes its oxidation, and further assumes that this oxidation must be at least not harmful, for he says, on the strength of Dr. Anstie's experiments:—

"It seems reasonable to conclude that about one ounce of absolute alcohol should be considered the limit which ordinary men should not pass if they wish to avoid danger. Now, that ounce of alcohol is contained in about two ounces of brandy, or five ounces of sherry or other strong wines, or eight to ten ounces of weaker wines, such as hock and claret. If we take the outside quantity it would only allow us to increase these amounts by one-half, and then we should have arrived at the maximum which can be disposed of by strong men. Of course, in weakly or unhealthy men, the figure should be reduced. In women, also, on account of the greater susceptibility of the nervous system, as well as for the less doses they require of all medicines, the amount should be less. In children the injurious effects of alcohol are more rapid in appearing and more severe in character, so that while it is almost universally allowed that they ought never to partake of it as a beverage, it should only be given as a medicine with extreme precaution."

Still it seems clear that Dr. James doubts whether the above-mentioned amount of alcohol can be safely taken even by healthy people, for he speaks of degenerations which "often appear in persons who consider themselves strictly moderate."

He might indeed have found from Dr. Anstie's own testimony that three-quarters of an ounce of alcohol taken by himself by way of practical experiment resulted, as Dr. Anstie describes it, thus:—

"The poisonous effects were fully developed, . . . the face felt hot, and was visibly flushed, pulse eighty-two, full and bounding, perspiration on the brow."

In this connection, also, it is of the first importance to remember that no person before he has tasted alcohol *can* know what its effects will be. Many persons have inherited a physical weakness, owing to which, if they once taste alcohol, the drink crave is created, and, as we know, very few are saved in whom this evil has once awakened. Again, people who have for long periods taken with apparent safety their so-called "physiological" dose may, owing to some unusual emotion, or sudden strain, or exhausting demand on their energies, or even by a severe cold, or by the slow poisoning of the system produced by the physiological dose; by one or several of these causes, find the usual allowance ineffectual, and before they realise it the drink crave springs into life, either because they have taken more than usual, or because whatever the amount they have taken some new effect has followed upon the special condition of the system, and they have become the victims of their long course of moderation.

The successful moderationist is, moreover, always an incitement to the vast numbers who argue from his career an immunity for themselves, which rarely fulfils their hope. As to the general effects of the use of alcohol in quantities which fall short of intoxication, Dr. James says:—

"*On the mucous membrane* it coagulates the albumen and corrugates the epithelium; this it appears to do by absorbing water, and we may see the effect in the mouth."

On the blood, he shows that it produces an accumulation of fat; on the heart and blood-vessels, that it increases the movements of the heart, and he says:—

"Now, such a stimulus as this would seem in one way to lessen the nutrition of the organ by an undue interference with its natural balance of exercise and rest; for it is difficult to see how excessive wear is to be compensated during diminished repair."

Notwithstanding this apparently stimulant effect, Dr. James says:—

"This term" [stimulant] "is indeed applied generally to all intoxicating liquors; but we ought not to forget that it may just as properly be termed *narcotic*, for after the exhilarating influence it produces drowsiness, and, in sufficient doses, coma. It has also been called *anodyne* and *anæsthetic*, and undoubtedly it lessens the consciousness of pain by deadening the perceptive power."

And as regards its effects on the nervous system and hence on thought, Dr. James says:—

"Alcohol certainly increases the rapidity of the flow of ideas, but by no means the power of controlling or directing them. This faculty is, in fact, diminished; close, concentrated attention is rendered difficult or impossible; very soon, however, a narcotic or anæsthetic effect comes on, and then the rapidity

of ideas or impressions is naturally lessened. Even when, as sometimes, the imagination seems to be stimulated, it becomes uncontrollable. As to the special senses, they scarcely seem to pass through the stage of excitement, but under quite small quantities their acuteness or their accuracy is lessened."

Dr. James' opinions in regard to the use of alcohol as a therapeutic agent are specially worthy of attention. For instance, *apropos* of its use as an antipyretic, he says :—

"If we give it as an antipyretic, we must give enough to reduce the temperature, and that is more than the maximum which healthy men can dispose of in the system; and it is not alleged, so far as I remember, that larger quantities can be oxidised in disease."

And that even large doses do not always reduce temperature, appears from this statement :—

"On the other hand, one of the men who was taking considerable doses in Dr. Parkes' experiments took cold, and his temperature rose in spite of the alcohol. Others have found that it cannot be relied upon to abate ordinary febrile excitement."

As to its usefulness as a sudorific, he says :—

"Hot grog, tea, or any other hot beverage, is equally efficacious, and less likely to be injurious, while a dose of sweet spirits of nitre in hot water is a domestic diaphoretic of much greater value."

He also points out that alcohol would never have been so universally claimed as a stimulant

"but for the fact that some form of wine or spirit is present in almost all households, and therefore in a case of fainting it is the most ready remedy."

As to its use in chronic diseases he warns that too frequent repetition may induce habits of intemperance, and he warns against the same results if alcohol is used as an "anæsthetic or anodyne in neuralgia or other painful affections."

He advises that altogether,

"whether in acute or chronic disease, whenever stimulants are administered, it is an excellent rule to give them only in conjunction with some form of food."

And in summing up the arguments for and against the use of alcohol as a medicine, he concludes :—

"The more caution is required, inasmuch as, after all, we have more potent remedies of this kind which are not dangerous in this direction [intemperance]; and if we had not, it would be better to endure the disease or to face death than to become the victim of intemperance."

It is most hopeful for the future of the race that men of authority are more and more coming forward to point out frankly and conscientiously the dangers which accompany any use of alcohol, whether dietetic or medicinal, in large or small quantities; especially in view of the mischievous plausibilities which have been, and still are being, both ignorantly and criminally disseminated.

Miscellaneous Communications.

HABITUAL INEBRIETY, AND THE RESULTS OF ITS TREATMENT IN ENGLAND AND ELSEWHERE.*

By NORMAN KERR, M.D., F.L.S., *Chairman of the Habitual Drunkards Committee of the British Medical Association; President of the Society for the Study and Cure of Inebriety; Consulting Physician to the Dalrymple Home for Inebriates; Hon. Sec. Homes for Inebriates Association.*

HABITUAL, in common with occasional, inebriety, has been very generally looked upon as only an offence against moral and social order, and a sinful act. This is the view which, I regret to say, has been taken by the great bulk of the religious, philanthropic, and Temperance worlds, in other countries as well as in Britain. Imbued with this belief, the measures which have usually been employed in dealing with the inebriates have been his treatment as a criminal by fine and imprisonment for the offence against the community, by rebuke and scorn for the breach of morals, by denunciation and excommunication for the sin. The intemperate, having been regarded but as wicked and premeditated sinners, have, with a few honourable exceptions (who have understood the true nature of inebriety), been treated as if they must have been specially vicious and depraved persons to have become units in the vast army of the drunken. Proceeding on the same lines, efforts at the reclamation of the tippler have generally been limited to religious exhortation, and to the administration of the teetotal pledge—in other words, to the moral and spiritual, to the exclusion of the physical, disorder. What has been the result? Enormous numbers of drunkards have taken this pledge, only a comparatively small minority of whom have remained steadfast in their disuse of intoxicants. Not a few

have been rescued, each captive delivered from the thralldom of strong drink alone a spoil so precious in the sight of God and man as to afford ample justification for the great and ennobling total abstinence movement; but multitudes have taken and violated that pledge over and over again, and have finally died in their drunkenness, the last state of many of such having been worse than their first.

Moreover, notwithstanding all the brave and gallant efforts of the warriors in the cold water army, drinking to excess goes on merrily apace; in sobriety, while somewhat decreasing among men, has been terribly increasing among women. This is a state of things pregnant with yet deeper ills to coming generations, for by the advancing intemperance of the mothers of the future, our successors, endowed from their birth with an inborn tendency to excess, cannot fail, from their heightened nervous susceptibility and their diminished will power, to be less fitly equipped to do battle with their inherited proclivities, and with the temptations to drinking which the tyrant customs of society, the sacred sanction of the Christian Church, and unrighteous legislation by the State, cause so to abound on every side.

Why, after having done so much, has abstinence accomplished comparatively so little during the past fifty years of its august and active propaganda? Largely, there can be no doubt, because Governments have failed to follow up the advances made through the medium of moral suasion by adequate prohibitory enactments,

* Read at the International Congress against the Abuse of Alcoholic Drinks, held at Antwerp, Sept. 12, 1885.

the supply of intoxicating drinks creating the demand much more than the demand creating the supply.

Whence has arisen this legislative inaction, or rather wrong action—for most of the Acts hitherto passed by the British Parliament have been based on the mistaken lines to which I have alluded? The reason is not far to seek. Both moral and legal reforms have, as a whole, been so engrossed in temperance work on an extensive scale, carried away with the pleasing notion that there is a short cut—a royal road—to sobriety, that they have never bestowed a moment's thought on the rise and progress of inebriety in the individual.

"Why do men and women become drunkards?" Many are content with the epigrammatic reply, "Because they drink?" Very true, so far as it goes, but this is only half the curriculum of education in confirmed intoxication. The inquiry which has been omitted, an inquiry essential to a proper understanding of the most effectual means of prevention and cure, is, "Why do men and women TAKE TO DRINK?"

If philanthropists, Christians, Temperance reformers, and statesmen, had appreciated the teaching of that far-seeing pioneer of Temperance, Dr. Benjamin Rush, of Philadelphia, one hundred years ago, they would have realised the physical character of Intemperance, they would have seen that inebriety is often either a diseased condition in itself, or is the outcome of certain antecedent diseased conditions of body or brain.

The procedure of indignant reproach and excited appeals to the heart is incomplete, as it has been founded on a defective view of the genesis and development of the drinking habit. Inebriety has a physical as well as a moral and religious aspect. In whatever form it appears, it is always partly physical, inasmuch as, without the intervention of a material intoxicating agent, there can be no intoxication. In many instances, it is at first purely physical, as for example, in the inheritors of the drink diathesis, the individuals weighted with which are, as it were, so seared

with the red hot iron of alcoholic heredity, that, all their life long, they are unable to drink any intoxicating liquor in moderation. If these drink at all they drink to drunkenness.

A Society, of which I have the honour to be President, was founded in England last year for the elucidation of the causes of Intemperance in the individual, under the title of the "Society for the Study and Cure of Inebriety." It consists of members who are medical men, and of associates who are ladies and gentlemen not belonging to the profession of medicine. Among the former are some of our best known physicians and surgeons, and many leading Temperance Reformers are among the latter. The papers already read, as published in the quarterly numbers of the Proceedings, afford ground for hope that a fuller and more accurate knowledge of the etiology of inebriety will ere long be acquired, a study which has been carried vigorously on for the past fifteen years by the American Association for the Cure of Inebriates.

Broadly, inebriates may be ranged under four classes.

I. The common sot, who never refuses to drink, and drinks any kind of liquor, as much and as often as he has the opportunity. By many this ordinary drunkard is regarded but as a vicious fool. He is not necessarily so, by any means. He, and (alas, too often) she, may be a person of gentle heart and unselfish disposition, who, no matter how frequently he is guilty of excessive indulgence, as frequently repents and loathes the bonds that drag him to his doom. Not unseldom the mental powers are deficient from birth; in very truth, as in popular language, he is a "born idiot." If not afflicted with idiocy, he is still oftener endowed with insufficient control, and thus has little ability to resist the narcotising power of the magic potion.

In such cases, and they are numerous, drunkenness has a physical origin.

II. Others resort to drink only on the recurrence of an attack of insanity. These are not insane through drink,

but become drunken through insanity. When sane they are perfectly sober, when insane they drink to insobriety. In their lucid intervals they are strictly temperate in their habits and well conducted in their walk and conversation. The drunken outburst is but the mode in which their recurrent madness is manifested. Here, again, drunkenness springs from physical causes.

III. Others, and this is an extensive class, lapse into inebriety through the effects of actual poisoning of the bodily and mental man by alcohol. Alcohol is an irritant narcotic poison, poisonous alike to the intelligence and to the material frame. Inebriety may result as a *sequela* of alcoholic disease of the brain, or of its membranes, or of some other organ or tissue. It may also be the direct consequence of the disturbing influence of this poisonous agent on the cerebral and nervous centres. In the first case, inebriety is the issue of bodily disease; in the second case, it is itself a form of disease. In both these groups inebriety has a physical origin.

IV. The operation of no natural law is more patent than is the operation of the law of alcoholic heredity. The drunken mother, the drunken father, or a drunken grand-parent, may hand down to their descendants an alcoholic stain which not even a lifetime of entire abstinence from intoxicating drinks can eradicate. I have known men and women, of the highest culture and the most irreproachable morals, of strong will and deep thought, of unaffected piety and exalted aim, who have been compelled by bitter experience to acknowledge to themselves the saddening fact that they could never dare to dally with strong drink. The continuous and victorious struggle of such heroic souls with their hereditary enemy, an enemy the more powerful, because ever leading its treacherous life within their breasts, presents to my mind such a glorious conflict, such an august spectacle, as should evoke the highest efforts of the painter and the sculptor. Before so protracted and so lofty a combat, the immortal group of

Laocoon contending with the serpents, grand though that great work of art is, must pale its ineffectual fires.

In this comprehensive group of cases of habitual drunkenness with an inherited predisposition, inebriety has also a physical beginning.

Only of late years has an attempt been made to conduct the treatment of inebriety as the enlightened physician would order the treatment of any other disease. In America, where, as we have already seen, Dr. Benjamin Rush pointed out the way, the disease aspect has been recognised, and, to the credit of their legislation be it recorded, many large Homes are supported in great part at the public expense, where the poorest male or female habitual drunkard, either on his own application, or on the application of others, may be treated with a view to cure. The results have been, on the whole, encouraging. Of 600 cases treated at the Home at Fort Hamilton, New York, the after history of which has been ascertained, about one-third are reported to have done well.

In the British Colonies something has also been done. The Melbourne Retreat, for instance, has discharged a number of patients during the eleven years of its existence, with a cheery tale of decided improvement.

In England, Scotland, and Ireland, very little has been attempted on behalf of the diseased inebriate, and that little only very incomplete, either by voluntary effort or by the State. A temporary measure, entitled the Habitual Drunkards Act, which will expire in five years, has been enacted. No power of compulsory committal of an inebriate to a Home has been given. Entrance must be voluntary, and the application of an inebriate for admission into a Retreat is made very formidable indeed by having to make a declaration before two justices that he or she is an habitual drunkard, is desirous of being received into a Home in which he or she undertakes to remain, and surrenders his or her liberty for any period not exceeding twelve months. A statutory declaration, signed by two persons, must also be produced stating that

the applicant is an habitual drunkard, within the meaning of the Act. In the case of females especially all this procedure before magistrates is a strong deterrent to requests for admission.

For years past there have been several private Homes for the reception of male and female inebriates, some of which have been genuine efforts at reformation and cure, and have, to my personal knowledge, done considerable good. There are also five Retreats at present licensed under the Habitual Drunkards Act. The Government Inspector, in his fifth annual report, just issued, states that, as a general rule, the Retreats have worked well. The only attempt to present the particulars and results of each case treated, in such a form as to prove of permanent value, will be found in the report of the first fifteen months' working of the Dalrymple Home for Inebriates at Rickmansworth (about twenty miles from London). This is the only institution of the kind which is conducted without personal profit to the proprietors, being owned by an Association no member of which can derive any pecuniary return from the undertaking, and is, at the same time, licensed under the Act. The Home was established for the purpose of giving the Act a fair trial, with no private interests involved in its financial success or failure, and under such conditions as are calculated to secure the highest degree of trustworthiness and enlightened supervision. The Government Inspector declares the report of the superintendent to be "very satisfactory," the "success of this Retreat to be very marked," and thinks that "it may well form a model for similar establishments which may be opened in future."

Patients are received privately as well as under the Act. Forty-nine have been admitted in all.

Age.—15 were between 20 and 30 years of age; 19 between 30 and 40; 11 between 40 and 50; and 4 between 50 and 60. The youngest was 23, and the eldest 53.

Previous Residence.—20 were from London; 19 from other parts of England; 4 from Ireland; 1 from Scotland;

1 from France; 1 from the United States; 1 from South America; 1 from Australia; and 1 from the Cape.

Religion.—44 were Protestant, and 5 Roman Catholic.

Education.—All but one had been well educated, 8 having passed through a college curriculum.

Marriage.—26 were married, 20 single, and 3 widowers.

Occupation.—13 were gentlemen of fortune. There were 7 civil servants, 4 lawyers, 4 medical men, 4 clerks, 1 librarian, and the remainder were engaged in commercial pursuits.

Heredity.—In 25 cases there had been inebriety in the family; in 6, either father or mother; in 5, grandparents; in 7, brothers; and in 7, uncles. In the remaining 24 cases, it must not be supposed that there had been no hereditary predisposition. All we can say is that we have been able to hear of no record of the kind.

Insanity.—In 6 cases insanity had been known to have been present in the progenitors.

Associate Habits.—43 used, and 4 did not use, tobacco. 2 were addicted to chloral.

Drinking Habits.—25 were regular and constant, and 24 periodical inebriates.

Frequency of Periods.—4 of the latter had on an average an outbreak every week, 1 every 2 weeks, 1 every 3 weeks, 3 every 4 weeks, 4 every 6 weeks, 6 every 2 months, and 4 every 3 months. The average time during which the habit had been going on was 8½ years.

Delirium Tremens.—9 had had one attack previously, 3 two attacks, 2 three attacks, and 1 five attacks.

Ordinary Habits.—44 were social and 5 solitary in their behaviour.

Kind of Liquor Used.—28 affected ardent spirits, 8 spirits with beer, 1 wine, 2 wine and beer, 2 beer, 4 all sorts, and 4 various drinks.

Previous Residence in a Retreat.—7 had been once before, and 2 twice.

Exciting Cause.—In 18 social drinking, in 15 nerve shock from domestic business, or financial worry, in 6 idleness, and in 4 special temptations of their calling.

Complicating Diseases.—31 had none,

4 had syphilis; 3 gout, 3 phthisis, 1 rheumatism, 3 dyspepsia, 2 chest troubles, 1 stricture.

Discharges.—26 had left from efflux of time, 3 from illness, and 3 who were found not to be amenable to treatment.

After History.—1 had become insane, 3 had died, 1 was not heard from, 1 was re-admitted, 6 were unimproved, 6 were improved, and 14 were doing well. In other words 50 per cent. of the survivors had been enabled once again to fulfil their duties in life, while 20 per cent. more had been improved.

Though, from the brief space of time which has elapsed since the opening of the Home, it would be unwise to speak with confidence of the proportion of permanent cures, the results as yet attained have been so far beyond what any one had ventured to hope for, that the friends of the victims of strong drink have good reason for encouragement in their endeavours to raise the fallen and strengthen the feeble.

There ought to be improved legislation. There is a class of inebriates on whom as—

“On the impassive ice the lightning plays,”

all advice and aid seem utterly wasted, who, in short, appear to be not amenable to treatment. Though I look upon no case as absolutely without hope, these are practically beyond the pale of remedial care under the present legislative provisions, and require at least three to four years' seclusion from temptation.

For such, and for the not inconsiderable number of inebriates who will never of their own free will enter any institution, and submit themselves to discipline, it is desirable that magistrates, or some other authority, should be invested with the power of compulsory committal.

The path leading to the Home should, too, be made as inviting and as easy as possible to the drunkard desirous of cure. This can be done by dispensing (in the case of voluntary entrance) with the appearance before justices. Means, by inspection and investigation, might easily be adopted to prevent any abuse of the powers of either committal or

detention, which latter ought to be considerably increased.

For the rich there would rapidly be provided ample accommodation; and for the poor, in the interests of the sufferer, as well as for the protection of the community, Homes ought to be established where both males and females could be received, the deficit, after the produce of whose earnings, being made good at the public expense. This would be a saving to the community, for it is much cheaper to prevent than to punish.

It would be well, in addition, to place all Homes for Inebriates, like Asylums for the Insane, under Government visitation, a plan which would afford an effectual reply to any complaints, and be a safeguard against cruelty on the one hand and lax management on the other.

The terrible extent of habitual drunkenness which we see over most of the civilised world is a reproach to good government, and a standing menace to public order. The philosophy of inebriety lies in a nutshell. Alcohol is an irritant narcotic poison, and in intoxicating liquors is present in such proportion as tends to distort the mental vision, disturb the reason, and enervate the will. The great majority of drinkers, happily, are able to resist the full strength of the alcoholic invader, and, though many may suffer in bodily infirmity from his ravages on the person, can stop, at various stages, short of confirmed drunkenness. But vast numbers have not this power of resistance, and, either from inherited alcoholism or from a transmitted feebleness of resolution, go down like chaff before the victorious progress of the foe. These fall by the operation of natural law, because they are susceptible to the benumbing influence of the poison, and are, physically speaking, truly “weak brethren.” Your inebriates are the sad, though sure, outcome of your drinking customs, your ecclesiastical patronage of a narcotic poison, and your legalised public temptations to indulgence. Let the community, the Church, and the State, once master the truth that intoxicating drinks are

material poisons, affecting human beings as other poisons do, in varying degrees, according to the idiosyncracies of the individual; and effectual remedies, social, ecclesiastical, and legal, will soon be adopted, which will steadily lessen the evils arising from the common use and sale of intoxicants. Meanwhile, the afflicted through alco-

hol are with us the legitimate fruit of our perilous habits and our muddling statecraft; and, as a simple matter of equity and fairness, we are bound in honour to do everything that within us lies to supply ample and rational opportunities of reformation and cure to the very feeblest of the victims of our self-indulgence and our sensuality.



DOCTORS AND DRINK.*

By ALFRED CARPENTER, M.D., M.R.C.P. (Lond.), C.S.S. (Camb.).

A PATIENT walks into the doctor's consulting room. He describes his symptoms and feelings. The doctor takes note of the physical signs of disease, and after writing a prescription, possibly in symbols, ends with some general, or it may be special, directions as to diet, and sooner or later in the interview suggests that a glass of wine will do the patient good, or a pint of beer a day is necessary for him to regain his strength, or that a glass of gin and water at bedtime will be the best thing that he can take as a sleeping dose. There are many other ways of prescribing alcohol, but I use these as illustrations.

I wish to point out that these instructions as regards alcoholic drinks are as much a part of the prescription as the three grains of quinine or the five drops of the tincture of nuxvomica, which may appear in the symbolical writing. They are more easily comprehended by the patient and are immediately acted upon. The prescription in symbols may be taken for a few days, it is troublesome to get made up at the druggist's, or to have sent from the general practitioner's surgery, and after a week or two falls into disuse, especially if the patient dislikes it. But not so as regards the alcohol. The wine or

beer or spirit may be distasteful at first, but, unlike the nauseous compound from the druggist or the surgery, after a time it becomes grateful, but less active by continued use, the system looks for its repetition, and eventually that which may have been honestly prescribed as a medicine by the doctor in the first instance apparently becomes necessary to the patient's comfort, and he or she finds, or at least believes, that they cannot do without it.

I have just stated in as few words as possible the simple fact which has been put forward, over and over again, by some of my professional brethren, as well as by laymen and women, and am not therefore presuming to put it before you as a new view of the matter. My object in restating it is to make it the text of my discourse, and to suggest a different proceeding when in the doctor's estimate it becomes necessary to prescribe alcohol for his patients. I want my professional brethren to recognise the fact that they are prescribing a poison and not a necessary of life, and that in so doing it is requisite to be precise unless they wish to be classed as slovens in their work. It may be, and doubtless will be argued, that my observations would be better addressed to an audience consisting wholly of medical men, than to a mixed assembly like this. I have already addressed my medical brethren on this subject, on more than one occasion, and my

* Read at the Annual Conference of the British Women's Temperance Association at the Memorial Hall, Farringdon Street, May 22, 1885.

addresses have been published in the *British Medical Journal*, which has a circulation of upwards of 12,000 among British medical men, practising all over the world. I fear that the majority of them turn a deaf ear to these proposals, for I still find in the medical journals that it is very common to meet with such a prescription strongly recommended by some of the most eminent men of the day. Alcohol is put before their patients in the very words I have used. I visit the large general hospitals; I find alcoholic drinks are still prescribed to the patients in those hospitals in the manner which I have pointed out. I respectfully suggest this fact to the temperance workers belonging to those hospitals; I am told by out-patients that it has been ordered for them by the hospital physicians in the way I think wrong. I read the accounts of proceedings at boards of guardians. I find the alcohol prescribed by the medical attendants upon the poor in the same way. It is ordered as an extra, to be paid for out of the rates. I examine the accounts of our local and general hospitals in all parts of the kingdom, and, with few exceptions, I find that stimulants (as they are called) appear in the items of expenditure to a very large amount. Those facts tell me very conclusively that such a mode of prescribing is still continued by my professional brethren to a much larger extent than can be beneficial to the patients. I write against such a plan, and I am told that my authority on this point is not equal to that of the great men who are popular with the public, and whose popularity would be jeopardised if they listened to my arguments. How is this difficulty to be overcome? First, I have to prove that the prescription is in the majority of instances certain to be hurtful if its use be continued as a habit, and that for the patient to have to depend upon such drinks is morally wrong. I have to show that the way in which they are prescribed is a slipshod and unscientific way, even if they be useful at the time, and for the purpose of gaining some particular benefits from

their use. I have to show that alcohol will in the end produce results when thus prescribed which the doctor who prescribed it could not have intended, and that in consequence of these results I think it is a custom which abstainers should positively refuse to follow, and when it is suggested to them as a medicine they should request the prescriber to make it a part of the prescription, so that it may be discontinued when the effect which is expected from it has been attained, and they should insist upon having specific instructions on this point. I would even go further, and advise that those who prescribe alcohol in this slipshod way should be avoided, and their advice not sought for. That is the safest way for abstainers to adopt.

It has happened to me on too many occasions to be confronted with the remark that some eminent authority, such as an ex-president of the Royal College of Physicians or Surgeons, or at least one of their fellows, had ordered the drink—nay, had insisted upon it, as necessary for the cure of the disease. This has been put in such a way as to infer that those eminent men could not have made a mistake, and that my advice was wrong, or that I did not understand the case. I should have been completely shut up on such occasions if I had not had more faith in the teachings of physiology and pathology than in the customs of my *confrères* in this course. It is to these teachings that I wish now to refer in as few words as I can, so as to place in your hands the main points which science holds to be true upon this subject.

A total abstainer takes, as suggested, a glass of wine at 11 a.m.; at noon the pale face which the abstainer probably possessed is flushed, the vessels in the periphery of the body have become somewhat enlarged, and there is a decrease in the rapidity of the circulation in the extremities of the small vessels all over the body. The heart is relieved of a little of its work, and is able to go faster for a time. As a consequence of that faster action there is less time for repose,

and as the action of the alcohol subsides, in consequence of its chemical change, or because it has escaped from the body by the lungs, the patient has a feeling of tiredness and *malaise* which is at once removed by a second glass taken later in the day. The face then becomes flushed again, and the white of the eyes may have a slightly pinky aspect, which indicates to the expert the cause of the flush. The tired feeling is removed, the heart becomes able to do its work with greater ease for the time, but it has also at the same time a shortened period for repose. It may be thought that the beats of the heart being apparently continuous, the machine never ceasing, there can be no repair, for repair can only take place during repose. This, however, is not really so. The time for renovation is in about a fifth part of the time which occupies a single beat, during which waste is repaired, and new energy obtained for the ever-active muscle. If this fifth part of a second be shortened the time for repair is diminished and rest is less complete. It is found in medical practice, in a certain class of fevers, that alcohol may be serviceable when it diminishes, but not when it increases, the frequency of the heart's beat. This is to be carefully observed when it is prescribed, otherwise it is a sharp sword for mischief in unskilful hands. There may be times also in which an overloaded heart must have some of its pressure taken off, the *vis-a-tergo* must be taken away, the force of the circulation as it comes from the periphery of the body must be removed, either by a free bleeding, or by the exhibition of a remedy which diminishes what is called vascular tension, or the heart will become either partially paralysed, or its walls will stretch, and the cavities be so enlarged that its valves are rendered incompetent to do their work. In these cases if the pressure of the blood from behind be taken off the heart may recover itself, and the patient be lifted over a very dangerous stile. These are very important powers which belong to alcohol, not, however, exclusively; and if the con-

stitution is such as that which usually belongs to a total abstainer, this class of remedies may be used in cases of great jeopardy by a skilled workman with precision and immediate advantage, but to persons who have been addicted to the use of liquor the answer is not so satisfactory, and the succeeding danger greater. But, just as it is a powerful agent, so it becomes in unskilled hands a most dangerous weapon. To take off the *vis-a-tergo* when the heart is wanting blood is a most unscientific proceeding; yet it is done to a great extent in thousands of cases, in anæmic bloodless persons, by even eminent men. The heart's beat is quickened, and the time for repair shortened, so that the poor patient becomes more and more tired in spite of the colour which is manifested, and which is looked at as an evidence of the benefit which alcohol is thought to have produced, instead of the injury which is sure to result from its use. For what happens in such cases? The daily exhibition of alcohol, by continuing its effect upon the capillaries, leads to their continued dilatation. The colour becomes permanent in the minute blood-vessels, because they are enlarged by its action, and, as a consequence, after a time, the heart has not only to do its own, but also a part of that work which the natural elasticity of the vessels assisted it to do. That natural elasticity is at first diminished, then destroyed. The heart, it is true, has not to overcome that elasticity, but it has to pump all the more powerfully to propel the blood into the distant capillaries of the body, at the very time when its own period of repose has been diminished by being shortened. Surely an important fact like this ought to cause every member of my profession to hesitate before he recommends the daily exhibition of a dose of an agent, to be continued for an indefinite period, which agent causes a certain amount of vaso-motor paralysis to be reproduced, day by day, with decreasing power of recovery. This is conduct like to that of a man who has a young and willing donkey. No animal can be made more willing

and more obedient to its driver than the ass, but as a rule it has obtained a character for stubbornness and self-will; it gets more kicks and blows than corn, and as a consequence it ultimately refuses to budge unless it is beaten, and at length the animal declines to respond at all to the blows of the driver. This simile is like to the action of alcohol on anæmic people, and especially on those who are said to have a weak heart, a state which its use has actually produced. It is a kind of treatment which can only have, sooner or later, one ending—viz., a decided and hopeless breakdown.

Let me now take another line of physiological argument.

I have mentioned the dilatation of the small vessels. It is patent to all in those that take a glass of wine for the first time. It is easily recognised in the habitual toper, for it becomes permanent in the white of his eyes, it is recognised as grog blossom upon the tip of his nose, and the state of his complexion is manifest to the most cursory beholder. The condition which it produces in the first instance is not a natural one; it is the commencement of a basis which leads to a diseased state of blood-vessel, and its effects are not limited to the white of the eye, the tip of the nose, or the bloated face. The action is common to every organ, and every part of the body, and it may be seen as easily as the sun at noonday by the eyes of the skilled observer. I do not wish to make a single unkind or uncharitable observation towards any class of people, and would like to avoid personality as far as possible, but I must use my eyesight in this important matter. If we attend a meeting of the Licensed Victuallers' Association, or a gathering at which publicans assemble, or if we go into a gin shop on a wet, or indeed any, night—if we examine the countenances of those assembled, we see a few jolly, rubicund faces, happy-go-lucky countenances, supposed to indicate good feeling and merry-heartedness. These appearances are, however, not natural. The capillaries are dilated, and the

blood is stagnating. It is not purified, as it ought to be, and there will be headache or loss of appetite sooner or later (possibly to-morrow morning); but how about the majority of those assembled at such places. There are the bleary-eyed, the flushed and turgid face, the rough, unhealthy-looking skin, the unkempt hair, and very often the outer manifestation of loathsome diseases. Whilst in the gin-shop we have filthy skin, unacquainted with the use of water, even for washing purpose, stinking rags for clothes, and very often most loathsome language. There is nothing like to the fair complexion and smooth skin which belong to the innocent child or the blooming healthy maiden, and, I may add, the consistent temperance advocate, unless the visitor is a new comer to such scenes.

Now come to a meeting like this. or look on the platform at Exeter Hall when the various temperance societies hold their annual meetings. Compare the pale faces and the white hairs of those who are leading the meeting with the faces of the liquor sellers and their customers. Is there doubt in anyone's mind as to which is the preferable, which is the healthiest, which is the happiest, for we may depend upon it that health and happiness go hand in hand together, when that health is both mental and physical. I commend my picture to the attention of the young women I see before me, and to all young women anxious to preserve their complexions. Would you keep your complexion so as to be like that of our friend who has lately gone from us—Samuel Bowly—retaining his vigour till the last drops of oil were well nigh used up, and whose white hair shone as the cleanest wool; or would you become flushed as some middle-aged ladies I sometimes see in so-called society, whose appearances approach very much to that of a Boniface behind the bar, and who drop out of the race in life from apoplexy or disease of the heart long before their proper time? We all know which even un abstaining husbands would prefer.

Depend upon it, my friends, that if

young girls would keep their complexions in a state of purity and fairness, they will religiously avoid the poison which causes the first dilatation of vessels, and which lays the first foundation for decay in their personal appearance, which even the paint provided by the Madame Rachels of the day cannot hide.

You will be told that my argument is not a true one, that experience is against its application, and that men of science are not agreed as to the effect of alcohol, whilst the personal feeling of the recipient is contrary to my doctrine. I answer that it is not only my doctrine, but it is the universal opinion of all the recognised physiological teachers of the day, that to ignore the teaching of such men as I have instanced in my paper in the *British Medical Journal* is to act as did the Italian monks, who, satisfied in the belief that the sun went round the earth, refused to be convinced to the contrary. The belief was satisfactory to them, and they were not going to have their opinion upset by any number of Galileos. They saw the sun go round the earth; seeing was to them believing, and the patent physical sign was not to be upset by instruments of precision such as telescopes, and, I may add, of thermometers and the sphygmographs. Those instruments were pretty toys for star-gazers, but not for sensible men, who could trust their own eyesight, and could be guided by their own feelings. The public were cautioned against the teaching, and the teachers were sent to Coventry by society. Let us inquire a little further upon this point of feeling. The drunken man is rendered insensible to pain; so is the man who is placed under the influence of æther and chloroform. There is a commencement of deadened sensitiveness with the first glass of liquor; the insensibility may be partial or complete. Pain is the irritation which is felt in the periphery of a nerve when its function is interfered with. It is an evidence of resentment on the part of the nervous system at some treatment it is receiving, or it is a sign that some action is taking place

contrary to the natural action of the body, possibly for the purpose of expelling an invader. It is produced by injured nature for the purpose of calling the attention of the owner of the body, and pointing out to him that something has gone wrong. It is a danger signal upon the railway of life, and the only result which can follow from the use of alcohol is to extinguish the signal, to allow the evil to go on unchecked, to allow a disease to arise which may paralyse the damaged nerve cells that they may no longer produce pain because their functions are destroyed and they can no longer give a sign of the possibility of disease. The supporters of the exhibition of alcohol point to the removal of pain as a beneficial result of its exhibition and triumphantly assert that it was doing the patient good. But follow that patient a few years, the neuralgic headache gives way to a general paralysis or to softening of the brain or to apoplexy. The dyspeptic person has some damaged state set up in the liver or lungs of some other organ, which is blindly imputed to some other cause, instead of the remedy which has been used for the relief of the dyspepsia, or other ailment for which the alcohol has been prescribed. It is possible that pain may be relieved by the use of alcohol, but while it is so relieved, the prescribed remedy acts by destroying the nerve cell which caused the pain, rendering other parts less sensitive to its action, and leaving its *débris in situ* as a platform for the commencement of organic disease. By the interference with the nerve power a corresponding loss also takes place in nutrition and repair, which manifests itself sooner or later.

Let me now go back to the dilated vessels which the first use of alcohol produces, and which continued use makes more or less permanent. Go to a small or large stream which runs a well-defined course, with well-kept banks, smoothly-trimmed hedges, and with a regular bottom. A shower of rain comes on, the water becomes turbid, but it hurries along, and there is no deposit on the side of the stream.

Now convey the stream through some meadows in which the banks are irregular, it widens out here, it contracts there. Now note what happens when the current is fouled by rain or by any other cause. The dilated stream contains water which is quieter than the main current. It stagnates, and you see little bits of chips, twigs, dead leaves, and straw loitering about; some mud settles at the bottom, so that you can stir it up and render the whole which is outside the main current quite thick with mud. Now the same stagnation takes place in the dilated capillaries. The blood is rendered more impure by the exhibition of alcohol in consequence of the arrest of the oxidation which it causes. A stagnation then takes place upon the dilated walls and in the substance of the very tissue of the vessels themselves, the result of which is to cause them to lose a portion of their natural elasticity and to become less able to respond to that elasticity when the force of the current is reduced. There is, then, a still greater dilatation, and grog blossoms form on the nose, on the cheeks, and more or less in every organ of the body. Grog blossoms in the brain, in the liver, in the kidneys, in the heart, in the lungs, indeed in every part of the system; grog blossoms which are indicative of the retention of unoxidised matter in those capillaries and in the organic cells belonging to the various glands which they feed. As a consequence we have the first steps in the production of disease, and the first steps in that breakdown which brings on premature old age and a decay which is not natural, and which does not belong to properly-treated humanity. The habitual daily use of alcohol, which is the natural result of slipshod prescribing, is a blind habit, and has its sequence in the drivelling idiots and paralysed neurotic invalids which one meets with at various seaside and other resorts. It fills our lunatic asylums with helpless imbeciles, and it deprives the country of a large part of that clear intellect and sound sense which age should place at our disposal. The belief that age and imbecility

generally go together has been produced in all classes by the daily use of alcohol, and it will take many generations of total abstainers to get rid of the hereditary condition which such conduct has produced in the British constitution.

Evil habits are inherited as well as good qualities. The state of nervous system which makes a man who is prone to drink, to thief, or to use bad language, is as capable of transmission to offspring as is intellect or capacity to master foreign languages or to be generous-hearted and polite. It is fully agreed that drinking to excess promotes crime, bad language, and its concomitants. It will be utterly impossible to eradicate the effects of past error even for many generations to come, and the sooner the medical profession assists in the work by refusing to prescribe alcohol, except as a real medicine and for purposes of precision, the sooner will the mischief be removed. The inherited tendency to thief or to use bad language is more easily brought to the surface in some persons than in others. A glass or two of wine given to such a person may bring out a dormant faculty which otherwise if wine were not prescribed would be dwarfed and destroyed by want of development. The mistaken act of the doctor in prescribing alcohol for such may be the means whereby the hospital patient becomes the inmate of a prison, or the commercial man a fraudulent bankrupt. The doctor may assert that he is not responsible for this result. I think he is as much responsible for it as a man who takes a light into a building in which there may be a gas escape. It may be the act of a fool, but the professional man has no right to allow himself to be classed with those who are wanting in common-sense. I urge my professional brethren to look at this side of the matter, to look at the possible effects of their action as regards the future, and not to be led away by the apparent benefit which seems to result from the immediate prescription of alcohol. It is the advice of a candid friend, and such will be (as it has been) resented. I

cannot help that. I am bound in justice to make public the views which I hold upon this matter, and to appeal to you as believers in the pure truths of abstinence, to push them to their legitimate conclusion; and not to take the possibility of 1 per cent. of benefit as a sufficient reason for risking the establishment of the 99 per cent. of injury. I urge you to do as sensible men do in commercial affairs, keep away from a risky business, or as the judicious mariner will do when piloting his vessel in a dangerous sea. He keeps as far away from the sunken rocks as is consistent with the avoidance of the shoals and quicksands which may be on the other side of the Channel. If he knew the exact spot in which the sunken rock is to be found, if the under-currents never varied, he might go nearer to it than it will be right for him to do, when the spot is not perfectly known and the power of the under-currents vary with the wind and tide, as well as with the weight of the ship. This picture represents the constitution of a human being. The use of alcohol under such circumstances hides from the sight of the pilot the friendly light from the neighbouring lighthouse, it puts recklessness into the hands of the steerer, and brings his vessel to grief because it is impossible to lay down on any physiological chart the limits of action or the position of under-currents which may have been produced by hereditary tendencies in the body of the recipient. The man who teaches the doctrine of moderation as the right principle to be adopted is either unaware of the dangers which beset the human frame, and corresponds to the blind leading the blind, or he is wilfully leading his weaker brethren astray upon a broad but dangerous path. It may be pleasanter, it may be apparently more agreeable, it may be pecuniarily profitable, but it is not right.

We are assembled here as a body of ardent promoters of abstinence, because we believe the principles to be just, and as such to ultimately promote the happiness of the great human family. But I would not have

you shut your eyes to the obstacles which beset our paths. Like to Christian's travels, as depicted by Bunyan, the path of the abstainer is beset with impediments. If he abstains because he knows the evils of drink from seeing its effects on his own relatives, it is probable that hereditary tendencies may exist in his body which will cause him suffering. He may be tempted to try "one glass" by a mistaken or misguided friend; he may be surprised at the comfort it seems to give him. But the more beneficial it may appear to be, the more dangerous will it be to him in the end. I would earnestly urge such an one to bear with his illness, and not to fly to such a remedy; to have patience with his sufferings, they will exhaust the morbid matter, and he will come out of the trial with a purified and sound body, instead of being more rapidly convalescent with a damaged spot in his frame.

* Let me illustrate my meaning by a physiological fact. Alcohol absorbs water from organic materials and diminishes their volume. It arrests oxidation by taking the available oxygen and using it up for its own purposes, whilst the carbon and nitrogen which require oxidation are left *in situ*, and somewhat diminished in their volume. As a consequence, circulation seems to go on better. The *débris* diminishes in size, but remains in position. The alcohol is reported to have hastened recovery, whilst in reality it has only patched it up by apparently diminishing mischief, and has not even arrested damage. I put it thus figuratively that you may the better understand my meaning. This is, however, contrary to the effect of water. Water causes organic matter to swell and to become disintegrated more perfectly. (Instance the cherry which has been preserved in brandy, which becomes corrugated by the process, to the same fruit kept in water.) The morbid material, if it has been the result of arrested oxidation, or of effusion from inflammation, is kept in a more soluble state by water than by alcohol, it is more certainly brought into contact with

oxidising agents, and is carried away by the proper absorbents in forms or combinations in which it can be entirely removed from the body. It is possible that the water treatment may seem to cause increased discomfort. If so, it is because it increases volume before removing the morbid matter from its position. Those who change from an alcoholic to a water diet must not always expect to be at once all the better for the change. They may even find after a time that they are apparently not so well. Very many earnest workers in the temperance cause have been led astray by this result, and have been persuaded that abstinence is doing them harm, when in reality they are only undergoing the house cleaning which is very necessary for them to undergo if they would recover a healthy frame. It is only the evidence of the greater damage they would have been under if they had not given up their habitual use of liquor. A return to old habits will only cause them to lose the advantage they have already gained by the commencement of the house-cleaning which the water is bringing about.

Persevere, like to Christian in his path through the Slough of Despond, and you will come out purified in the end. Do not be persuaded to go back; look narrowly into other habits which you may be indulging in: it may be that there is something which is assisting to try you, such as living in impure air, drinking impure water, or taking a wrong kind of food. The use of impure water is a powerful source of backsliding, and a great gain to the ranks of the so-called moderate drinkers. "Carpenter," said an eminent physician to me the other day, "I am an abstainer, and mean to remain one all my days. I never touch water, for I don't mean to get typhoid fever or dysentery. More diseases (said he) are produced by bad water than by good liquor. I shall stick to the latter."

Temperance workers must face this difficulty. It is a real one. Sincere believers in the mischief which results from alcoholic drinks find much mis-

chief also in the bad water which is doled out, more especially to our poorer brethren, and in some places they cannot get it even in its polluted state. Until good water is available at the corners of our streets, as easy of access to our men and women and children as the gin palace, we have not done the whole of our duty. Authorities of every kind, who sell water which is impure, should be equally liable with other dealers who dispose of adulterated articles, and all corporations and companies who have the monopoly of a district for purposes of water supply, should be obliged to erect public fountains at every place at which it is thought necessary to put a fire-plug. The flames of intemperance are of much more moment than those caused by accidental fires, and local authorities would ultimately find their gain in affording easy means for the extinction of both. The expenditure for both should be thrown upon the rates, and would repay themselves in the long run more than tenfold.

I may mention a case within my own observation which bears upon bad water. A gardener, who was a sturdy specimen of the British workman, and an authority among his fellows, had been an abstainer for some years, and was influential in persuading many to follow his example. He fell into a disturbed state of health, which his doctor imputed to his teetotalism. Assuredly, every time he gave up water and drank beer instead he recovered his health, and every time he returned to his total abstinence he fell into the same state of ill-health. At this juncture his mistress, who was extremely anxious that he should not give up the cause of temperance, sent him to me. I examined him very carefully, and could find no reason for his relapses unless it should be in the water itself which he drank, and which came from a pump in his own garden. I advised him to let beer alone, but change his water supply—to get his water from his master's pump, and to send me some from his own. He did so, and came to me a fortnight afterwards,

saying that he had had no damage from his continued water drinking. I tested the water from the garden pump, and found it to contain several grains of sulphate of magnesia in every gallon. The Epsom salt had set up an irritability in his mucous membrane, which was brought out by the small quantity of mineral saline in the water, and, but for its discovery, might have led to a desertion of the cause of temperance, not only by the man in question, but by many others in the club to which he belonged, and to whom his example was of the greatest importance. The gardener's doctor was right as to the causation of his patient's illnesses, but his treatment was wrong, and might have led to disastrous results.

One other illustration and I will cease. I have mentioned that in some forms of fever in which the heart becomes embarrassed, it is possible that the use of alcohol may be beneficial, especially if oxidation (as shown by the high temperature) is rapid; but its use is also attended with serious danger unless its exhibition is watched most carefully by one thoroughly acquainted with its effects. I have seen several cases in which I have had reason to believe that the patient has been deprived of consciousness by the alcohol rather than by the disease, the end being that he has been poisoned by misadventure. I saw a case, in consultation with two highly intelligent medical men, some time since, in which I advised a non-alcoholic plan of treating a very severe form of typhoid. The plan was followed with such success that when the patient was seen on the nineteenth day he seemed to be so far through his attack that his recovery was confidently predicted. Two days afterwards I had a telegram from his mother:—"Come as quick as possible; my boy is sinking fast." I went by an early train. I was met by the doctor, who said, "I cannot understand our patient; he seems to be dying." I said, "What has happened?" He said, "Nothing; but yesterday he became excited; he was wildly delirious last night, and is comatose this morning."

There had been no change that could account for the alteration. I asked about the temperature. He said, "That is the curious part of it. The temperature was normal the day you saw him, yesterday it was one degree below normal, and this morning it is two." I thought there must be some mistake upon this point, for it was not likely that the young man would die in that way. I carefully examined him. He laid apparently unconscious, muttering to himself, taking no notice of my examination. The pupils of his eyes were contracted, and the white of the eyes were suffused; and his temperature certainly was only 96.6, instead of 98.5; but there was not any other fact about him which looked like dying. I thought I had seen several such in police cells, and I at once inquired as to whether any stimulants had been given. It then appeared that the nurses, with more zeal than discretion, having taken the temperature of the patient several times a day, were alarmed at the thermometer registering a figure below normal, and had, without authority, administered a quantity of brandy with the effect of still further diminishing the oxidation, which the absence of fever had caused two days previously, and which kept the self-acting register in the thermometer at a lower point, and caused the nurses in the night to give still more stimulants. The patient became more and more delirious in the preceding evening, and the stupor in which I found him was that caused by liquor and not by disease. We at once put alcohol aside, and in forty-eight hours the young man was entirely out of danger, and it was very evident as to the cause of his delirium.

It may be thought irregular to mention such cases in this assembly, but the subject is so important that I should do wrong to the cause if I did not point out these instances in which mistaken zeal had all but led to fatal results.

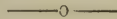
The effect of alcohol in reducing temperature is one of those important physiological facts which cannot be too strongly insisted upon. Anyone,

therefore, who prescribes it when the thermometer indicates a figure below normal, or for the purpose of raising temperature, will probably assist to hasten the end of his patient, unless the heart is so embarrassed as to be unable to act from pressure of the blood, and because the tension of blood-vessels is too great to be overcome by the muscular force of the cardiac organ. In such cases it would probably be safer to bleed, and apply external warmth as more rapid in its effects than the use of alcohol. When a medical man uses it because the temperature is falling, he does not understand the true action of the drug he is using.

That it diminishes oxidation is shown by its action upon the excretion of carbonic acid, or carbon dioxide as it is now called, from the lungs. Like to exercise and tea, it quickens circulation, but whilst the latter increases the excretion of carbonic acid from the pulmonary organs alcohol diminishes the quantity, and, as a natural result, there must be a lessened chemical action in the periphery of the body. Under these circumstances it does appear to me curious that eminent men should shut their eyes to its real effect, viz., that of diminishing the evidence of danger, without diminishing in the least the danger itself. It simply bears out the statement which Shakespeare made:—"That the Gods are just, and of our pleasant vices, make instruments to plague us." (*King Lear*, Act. v., scene 3.) Alcohol diminishes temperature by diminishing oxidation; it arrests the rapidity of circulation by dilating the passages through which

the blood has to pass; it keeps within the periphery of the body the *débris* which ought to be removed from it to keep that body in a good state of health. It delays that removal sometimes until disease arises in the organ whose duty it is to remove the *débris*; and it is to alcohol that we owe the establishment of a large class of those diseases which cut short the lives of middle-aged men and women and bring on the evidence of premature age. The disease is acknowledged, but its instigating agent is but too often used for the purpose of deadening the sensibility of the nerve cells, which otherwise would draw the attention of the patient to his danger, the doctor sometimes even giving him "a hair of the dog that bit him," instead of entirely and at once cutting off the supply of that poison which has brought about the catastrophe. We never hesitate to remove any food which is thought to contain arsenic or mercury or strychnine, when symptoms of poisoning from those agents are made manifest; but, with a blindness which would be unaccountable if it were not but too evident as to its source, we refuse to put aside the poison when the symptoms are produced by alcohol and opium.

It is by educating public opinion upon these points, and by drawing attention in a practical manner to the unfortunate results which follow from a slipshod habit, and to a too-easy conformity to the wishes of our patients, that the evil will be diminished and at length got rid of. I have done my duty, and I hope you will not hesitate to do yours.



ONE CAUSE OF DRINKING.—It should be clearly understood that habitual drunkenness has generally but one cause. Alcohol "free" chemically, as it is in distilled spirits of any kind, acts directly upon the delicate coatings of the stomach, the alimentary canal, the secretory organs, and upon the brain. Inflamed conditions follow, creating a feverish thirst for the very cause of the difficulty. Human will power is not strong enough to resist, and the disease goes on from bad to worse.—*American Wine Journal*.

OUGHT WE TO PRESCRIBE ALCOHOL, AND HOW?*

By NORMAN KERR, M.D., F.L.S., *London.*

THE medicinal administration of alcohol has, especially of late years, been the subject of much disputation.

There yet linger in our ranks—

“*Rara nantes in gurgite vasto*” †

—a few survivors of the Brunonian wave of stimulation, who, out-Browning Brown, seem to order fermented wines and ardent spirits to their patients of both sexes, in all ages, in almost every ailment.

There have arisen in our midst some daring innovators who deny that alcohol in any form or in any quantity possesses useful medicinal virtues, and teach that in all circumstances its therapeutic use is positively injurious. These latter will not concede a place to alcohol even in pharmacy, and insist on the preparation of drugs in non-alcoholic menstrua.

Between these extremes lie two other groups.

The one, while deprecating the routine and indiscriminate prescription of alcoholics, have not lost faith in the value of such beverages when ordered with care, deliberation, and precision.

The other group, while condemning the use of intoxicating drinks as therapeutic agents, order alcohol—generously it may be—in a purely medicinal mixture as alcohol at a definite specific gravity.

I began a quarter of a century ago by adopting the last-named plan, combining the alcohol with cinnamon water, or some other pleasing diluent likely to render the taste as agreeable as possible to the palate of the patient. I soon realised, however, that there were cases in which pure alcohol so taken could not be tolerated or

retained, and I gradually fell into the method of prescribing the alcohol in a mixture composed of Tr. Cardamom. Co., Sp. Ammon. Arom., Sp. Chloroform, with cinnamon water, or some similar combination, with the addition of other alcoholic tinctures as indicated.

Both of these modes of prescribing enable the intelligent physician to administer exactly the amount of alcohol which he wishes to employ, and to watch the precise effects of the remedy.

But I at times encountered cases when each of these methods of administration failed either to secure retention of the potion, or to benefit the patient, and when some ordinary form of intoxicating liquid was the apparent means of tiding a sufferer over a crisis, or proved efficacious in some other way. At times relief was experienced from whisky, at times from brandy, and at times from some form of fermented wine.

Most practitioners have, as they advanced on their professional career, ordered less and less alcoholic liquor. I, on the contrary, have steadily resorted to this adjuvant to medical treatment more and more. At the same time, so seldom do I prescribe these potent and dangerous remedies, and in so small doses, that the average of recent years has been only once in every 2,000 cases, and the total amount ordered has not averaged annually more than a quart of spirits, and a couple of dozen bottles of fermented wine. As my practice has comprised a fair share of illness and accident commonly treated by intoxicants, such as post-partum hæmorrhage, fevers, and shock from injury, and my results have been as good as those of my neighbours, my testimony may be regarded as practically corroborative of the safety and reliability of the treatment of disease and accident without intoxicating drinks. It is right to add that I have found the unfermented port with bark (supplied

* Read in Section G—Pharmacology and Therapeutics—Annual Meeting of the British Medical Association, Cardiff, July, 1885.

† “Here and there swimming in the vast abyss.”

by Mr. Frank Wright, Kensington, London) of great value in convalescence from fever and other ailments.

The dictum that alcohol is always, everywhere, and in all quantities, injurious, has no warrant from science or from common sense, and is opposed to the facts. In the present state of our knowledge such a belief can arise only from the wish being father to the thought. In our recoil from the horrors of intemperance we are apt to regard alcohol as "only evil, and that continually;" but as professors of the art of healing, and as interpreters of scientific truth, we have no right to allow our reason to be overborne by our feelings.

In pharmacy, though glycerine tinctures if they are carefully prepared are, as regards many drugs, satisfactory, there are other drugs with which they are not so successful. There are other non-alcoholic pharmaceutical preparations; but for myself I confess that I know of little advantage which most of these possess over the officinal forms of the British pharmacopœia, except the fashionable attributes of cheapness. Though up to the present alcohol has borne the palm over other media, in the preparation and preservation of most drugs, it is well to have at command the various remedies which we employ, in a non-alcoholic form, as we can thus try the therapeutic power of any particular substance unmasked and unaffected by the effects of the alcohol. There are also cases in which we may be specially desirous of avoiding even the minutest narcotic effect of the alcohol in an ordinary tincture.

To the question, "Ought we ever to prescribe intoxicating drinks?" I unhesitatingly reply, "Yes." How anyone can deny that they have been useful and have saved life I am at a loss to understand. I have seen cases, not many certainly, in which, were I to doubt that the timeous and judicious administration of fermented wine or distilled spirit has been the means of recovery, I would as reasonably doubt the usefulness of any other drug. For example, in one case of child-birth to which I was unex-

pectedly called, the woman appeared moribund, and I had literally no hope of saving her. However, I applied the brandy-bottle, which of course stood conveniently near (it is remarkable how handy this physic always is) to her lips, and succeeded in getting about an ounce down. The revival was almost instantaneous, when I at once discontinued the brandy. The patient ultimately made a good recovery. I ought to add that if there had been available any other stimulant, such as salvolatile or chloric ether, I would have used it in preference to the brandy.

Let me cite one more case in the practice of my friend, Mr. C. H. Greenly, late of Bristol. A boy, twelve years of age, was struck down by a severe attack of measles. After twenty-four hours' vomiting he was pale and collapsed, the pulse very feeble and fluttering, the face hippocratic, and the boy appeared at death's-door. My friend, now an octogenarian, having been an abstainer of long standing, had tried every non-alcoholic and non-intoxicating remedy that could be thought of. As a last resort, a glassful of champagne was given. The vomiting ceased. In half an hour more half a glassful was given. The patient then was able to retain a little food, began to revive, and ultimately recovered. No more stimulants were administered.

It does not always follow that because a patient has recovered after taking alcoholic stimulant he owes his recovery to that stimulant. *Post hoc* is not necessarily *propter hoc*. An old lady died in London a few years ago. The same medical man had attended her for thirty-five years. She left him a legacy carefully packed in a certain huge box. When this box was opened after her death, the legacy to the medical attendant, to whom she had expressed herself as so indebted for his skilful advice and excellent medicine which had kept her alive so long, was found to consist of all the bottles of physic which he had ever sent her—unopened! I have known recovery take place and the attending physician congratulate himself on the striking effect of the intoxicant prescribed,

when all the time the patient had not tasted it.

Yet, after every reasonable allowance for fallacies, there seems to me to be proof as clear as we can expect to find of the value of any drug, of unmistakable benefit derived from an intoxicating draught wisely ordered.

Even in cases where an intoxicant seemed utterly inadmissible, I have known good results from such a prescription. Take one instance in the practice of my friend Dr. S. Fitch. Dr. Fitch was called in consultation to the bedside of a man apparently dying from dysentery. The sufferer was *in extremis*, and feebly asked for cyder. The physicians were all agreed that nothing could be worse for him. As they were also agreed that nothing more could be done to avert a fatal termination, my friend said, "As we are of one mind that the man is dying, cyder can't kill him. Let us give him what he wants." A wine-glassful was brought. The patient drank it with avidity, and asked for more. "By all means," said my sensible friend; "fetch a pitcher, and let him drink as much as he likes." The man drank a quart, and, to the astonishment alike of his physicians and his friends, made a perfect recovery.

In support of the allegation that alcohol is always injurious in therapeutics no proof has as yet been adduced. It is interesting and instructive to learn that, in the experience of the London Temperance Hospital, there has been a mortality of only 5 per cent. in a record of 2,862 in-patients, to only three of whom an intoxicant had been administered; but no argument against the careful therapeutic employment of alcoholic liquor can be founded on these figures. The numbers treated, in comparison with those attended at other hospitals, have been so small that the law of average has not yet had time to operate. A single hospital epidemic might at once expose the fallacy of drawing a positive conclusion from so limited an induction, by seriously raising the mortality. The only legitimate use which can at present be made of the experience at this most useful institution, is a simple

statement of the facts (without the enunciation of any dogmatic conclusions), such as has been given by Mr. Pearce Gould, in his report of a year's surgical work at this hospital, presented to the Anatomy Section of the American Medical Association, a report which I may be permitted to commend for its modesty and candour. To show how dangerous it is to generalise from insufficient data, it will suffice to refer to the variation in the death-rate in enteric fever at the Middlesex Hospital, which was 28·8 per cent. in 1875, and 2·5 per cent. in 1880.

Hitherto most of the non-alcoholic experiments have been pitted against the profuse administration of alcoholic drinks—a most fallacious procedure. This has been done notably with enteric fever. Yet the only recently published record of cases of this disease, treated without alcohol in this country in a public institution, shows a higher death-rate than I have ever myself seen, though occasionally giving small doses of intoxicants. A curious exemplification of the confusion of popular reasoning on the medical use of alcohol, will be found in a generally accurate and attractive volume, a work of permanent value, by Mr. Axel Gustafson (Kegan Paul, Trench & Co., third edition, pp. 205-7). The accomplished author, who is not a member of the medical profession, contrasts the low mortality in the treatment of enteric fever by cold bathing, with the higher mortality by hospital treatment embracing alcoholic stimuli, oblivious of the fact that to patients subjected to the cold bathing alcoholics were given.

The comparison ought not to be between the absence of alcohol and its indiscriminate prescription, but between the former and the intelligent employment of the drug. The best method of arriving at the truth is to treat one half of the patients admitted into a hospital with no alcoholic liquors, and to give these remedial agents to the other half with the utmost care and discrimination, ensuring the equality of the conditions of both groups as closely as possible. This plan was adopted by Dr. Bristowe and his experience was corroborative

of my own, that there was practically no difference in the issue. The difference in favour of no alcohol, as compared with the lavish use of alcohol, is, however, very marked, as was shown by Dr. Gairdner and Dr. J. B. Russell many years ago.

In my paper on "The Medical Administration of Alcohol," read to the section of medicine at the Sheffield meeting in 1876, I cited several medical testimonies in favour of non-alcoholic treatment of fevers, notably that of my friend, the late Dr. Simon Nicolls, who had a mortality of less than 5 per cent. in 230 cases.

The record of the results of a greatly lessened administration of alcohol in the treatment of small-pox, in the London hospital ships, is of deep interest. Having been requested to inquire into the effects of this diminished alcoholic stimulation on the mortality and convalescence, Dr. Birdwood stated that though the gravity of the cases had increased, with a mortality of 15 per 100 in the metropolis, the ship's death-rate had remained at less than 7 per 100. Convalescence had been more rapid, and there had been fewer and less serious complications from abscesses and inflammatory boils. Other causes had contributed to this improvement, but the medical officers attributed a considerable share in the amelioration to a greatly diminished prescription of alcohol. On the whole, I have no hesitation in giving utterance to the opinion that, as a rule, most cases of all kinds of fever can be best treated without intoxicating remedies, only a rare case calling for and benefiting by such therapeutic adjuvants. Without hesitation I may make a similar statement with reference to most other diseases.

"HOW OUGHT WE TO PRESCRIBE ALCOHOL?"

We should never forget that intoxicating drinks cannot be ordered without some risk of a taste for them being acquired, and the remedy itself proving worse than the original disease.

This risk was strikingly exemplified in the case of a favourite dog of two

maiden ladies of my acquaintance. This animal was seized with an attack of acute pneumonia. The veterinary surgeon gave the dog brandy. The dog recovered, whether because of or in spite of the stimulant I cannot tell. Ever since, if he hears anyone speak of brandy, he is up in a moment on his hind legs, begging for the seductive physic.

Though I believe the cases of what may be called "medical drunkenness" are not nearly so numerous as is popularly asserted, I have known instances where the medical prescription of strong drinks has been the beginning of a career of excess.

We ought in all cases to let alcoholic liquids be the last and not the first remedy, as they are ever fraught with possible danger.

Especially we ought not to exhibit such "tricky spirits" to reformed inebriates, or to persons who labour under the suspicion of a transmitted alcoholic taint. The whole system of all such is ever ready to respond to the lightest touch of the poison, and the smallest sip will often light up an uncontrollable conflagration.

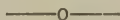
For these reasons, as well as for the scientific reason that we should administer our remedies in as well-defined doses as possible, and in such a form as to be liable to little disturbance from the action of other agents, it is desirable to order alcohol at a certain specific gravity in some elegant mixture, or in a preparation into which alcoholic tinctures of an ascertained strength enter. By both these plans you can control the amount of alcohol you employ, and you can note the effects.

But intoxicants are not always given to the sick purely for the alcohol which they contain. The ethers developed in wines and spirits are sometimes of a high medicinal value, and till science has succeeded in separating these ethers from the alcohol with which they are associated, it will be bad practice to exclude intoxicating drinks altogether from our armamentarium.

Bearing in mind the possibility of the narcotic setting up a new chain of

diseased symptoms, and even leading to those habits of intemperance which we all reprobate, we ought to limit our prescription of an intoxicant to the occasion only, taking due precaution that the medicine is not continued after the purpose for which the stimulant was given has been gained. We ought also for these reasons, as well as to secure the definite benefit which we hope to attain from the exhibition of an alcoholic drink, to order the remedy in clearly defined doses.

By the adoption of such a line of practice we shall act in a spirit of loyalty to the high character of our calling, we shall avail ourselves of all the aid derivable from a potent narcotic poison, we shall shield ourselves from any imputation of recklessness and carelessness, and we shall have the satisfaction of knowing that none of our patients can rightfully reproach us with having launched him on a deep, beneath the treacherous surface of which a perilous fate may overtake the frail and venturesome voyager.



THE ANNUAL TEMPERANCE BREAKFAST.

IN connection with the visit of the British Medical Association to Cardiff, on Friday, July 31, a breakfast was held at the Park Hall in that town, on the invitation of the president and committee of the National Temperance League. About 150 medical men attended in response to invitations, and the proceedings throughout were of a very enthusiastic character. The Rev. Llewelyn D. Bevan, D.D., a vice-president of the League, took the chair.

The repast having been disposed of,

The CHAIRMAN said that he wished to express on behalf of the National Temperance League the great pleasure which they felt in welcoming the British Medical Association to breakfast that morning. They extended to them a very cordial greeting, and were grateful for the opportunity thus afforded them to entertain gentlemen connected with the medical profession. Personally he had received very kind treatment from the medical profession. It was his desire, on behalf of himself and many dear to him, who had received kind attention at the hands of the medical profession, to express to them the high appreciation which they had for the skill and patience and kindness with which they had been treated by members of this profession. He and those associated with him represented there that morning a society which had for its special

object the changing of the social habits of the people. They were not there to talk about the ill-effects of alcohol or the influence of the poisonous drug upon the system. Those were things that medical men could deal with a great deal better than he could. But the medical gentlemen whom he was addressing, as members of the common social life of this country, and as interested in the progress of the country, would no doubt be glad to hear some of the points which he would bring forward. The day when teetotalism needed to defend itself against all sorts of charges of being wanting in common sense and rationality was altogether gone by. The fact was just this, that men felt there were certain great evils which they desired to have dealt with, and they would like to know how the medical profession felt in the matter. He thought that they would acknowledge that what total abstinence desired to perform in the country was important from this point of view—it had shown the possibility of living without the use of the great commodity. At first it was doubted whether it was possible for a man to exist without the use of alcoholic stimulants. He thought that total abstainers were able to do their work with as much mental clearness and physical vigour as their friends on the opposite side, and which he thought they would not be willing to dispute.

If they turned to the records of the life assurance societies they would find some remarkably instructive facts concerning the non-use of alcohol to the prolongation of life. In general it was found that such societies made a division between the abstaining and the non-abstaining members in the society. He thought they had brought at last to the mind and also to the conscience of the community this fact, that alcohol was a drug of tremendous power which was being dealt with in an exceedingly loose and uncertain manner. They should deal cautiously with such a powerful engine as had been put in the hands of society. A moral reform must necessarily proceed upon a physical basis. That was a point which he thought our moral reformers too often forgot. That was what members of his own profession too often forgot. They seemed to think that a change for the better was to be obtained only by a change of conviction in the mind and in the heart and moral nature of man. Now, he was satisfied that the majority of evils—great physical evils, great social evils, even great political evils—which were affecting us to-day, could never be dealt with unless we went down to the very roots of human nature to be found in man's physical constitution. There was nothing to him more striking than the history of the work of Jesus Christ, who was not only a teacher and moral reformer, but was also a great physician. If they read carefully the life of Christ they would find that His work proceeded hand in hand with the great physical improvement which He produced amongst people. The fact remained that whatever Jesus Christ was—that whatever theologically we might think about Him, He was the great physical healer of His time, and His moral reform and spiritual regeneration of mankind was one which dealt with humanity in its roots in the physical nature. That was exactly what he thought the temperance movement had brought very clearly before the thoughtful mind of the community. We talked about promoting the condition of the poor, but we shall never do it unless

we improved the condition of their homes and their food—the physical condition in which they lived. We might talk about promoting the purity and improving the social morality of the poor; but there were certain deep physical conditions which had to be dealt with—questions as to open air, questions as to physical development. All these came within the great problem with which they had to deal. Now, in this matter of temperance reform he had pointed out that if they were to deal with it they had got to deal with it upon a physical basis. Here was the point which touched the doctors whom he was addressing. Temperance reformers said they could not do their work unless the medical men helped them. He felt that unless he had upon his side the medical men of those indulging in intoxicants, it would be impossible for him to deal with people so indulging. A large amount of direct social good could be done if medical men would only seize the brandy bottle. It was very hard for temperance men to go and preach and pray and lecture, and at the same time to have all their work undone by the physician. It was of little use for temperance men to try for moral and religious reform, unless they could get medical men to deal with the matter. Drunkenness was a moral evil, but drunkenness had also a physical basis, and he thought they had done much for the community in getting men to look at it in that light. He wished to allude, in conclusion, to the growing importance of this matter with relation to home life—in the habits of our wives and mothers. The longer he lived, and the more experience he gained as a Christian minister, the more he thought that there were growing amongst our women habits which were a very serious injury to the happiness, peace, and prosperity of the community. He thought there was no more delicate relationship in the world than that which subsisted between the mother of a family and her medical man. Medical men knew this, and they knew that nowhere else could they better use their influence. He pleaded

with them, then, by all that was sacred in their lives, by all that was best in their memories, to be careful with respect to women and their leaning towards this habit. Taking his own experience in the class of life one knew best, he thought that there was more evil to be found in the case of women who had given way to the use of intoxicants than even amongst men. When this evil laid hold of the female nature the injury was far greater, and his experience was that it was ten times more difficult to change the habit of a drunken woman than of a drunken man. He made a strong appeal to medical men for their sympathetic aid, as members of a profession to which he thought we owed more than to any other.

Dr. NORMAN KERR, who was then called upon, alluded to the views which had been expressed two days before by Dr. W. Roberts, and said that the practice of total abstinence would greatly tend to the prosperity, health, and happiness of the whole human race. This was a medical question largely. This was the centenary year of the foundation of temperance reform by a member of their own profession—Dr. Rush, of Philadelphia. Since that time the ball of temperance had been rolled on, and Dr. Cheyne and Dr. James, among others, held aloft the torch of total abstinence long before there was any organisation established to promote the principle. Great organisations such as that of the National Temperance League had embodied the views which had proceeded in great part from members of the medical profession. He did not say that to glorify themselves, but with the object of removing a common impression that medical men were great upholders of the drinking customs of society. From the earliest time of the temperance movement the medical profession had been as well represented in it as the clerical profession, and a great deal better than the legal. In addition to that most excellent society—the National Temperance League—which embraced a large number of the medical profession, there was the

British Medical Temperance Association, consisting of 300 men, every one of whom was a pledged total abstainer. There were in the profession at least as many more medical men, so that there were between 800 and 900 members of the medical profession in the country who were total abstainers. He put it to the heart and conscience of every medical man there, what would be the result to Great Britain and the world if every member of the medical profession, high and low, were to become a total abstainer? Would the world be better or worse? Whatever might be their view about moderation, it was their business there, as a great profession, to do the greatest possible good to the greatest possible number, and from that point alone it seemed to him that the chairman of that morning was right in all that he had said.

Dr. WALTER DICKSON, president of the metropolitan branch of the British Medical Association, rose to make a few remarks on the temperance question as the result of his former acquaintance with the navy. More than a quarter of a century ago there was a great deal of drunkenness amongst sailors, but not on board ship—there it was unknown. No men were more temperate than sailors when on board, for the good reason that they could not get anything but a very moderate allowance. In the days to which he was alluding sailors were under an obligation almost to take their allowance—five ounces of rum—which was the quarter of an imperial pint, every day. They could easily imagine that a very bad habit was induced—the men became accustomed to the stimulant and craved for it on all sides. It could be hardly wondered, then, that when they went on shore they wallowed like swine in the midst of intemperance of every kind; whilst men of other nations—Frenchmen, Italians, and Spaniards—walked about like gentlemen. Alluding to his experiences on the African coast, he said that no doubt one of the great points in favour of the Mohammedan religion was the extreme sobriety of its disciples. Wherever Mohammedans went they

carried total abstinence. The Fetish worshippers—such as the great majority of negroes were—were drunken in their habits, but as soon as they were converted to Mohammedanism a great change came over them. We never saw a drunken Chinaman; but Englishmen, who ought to be the very patterns of civilisation and sobriety, disgraced themselves in the eyes of people abroad. At the same time he must say that he preferred temperance to total abstinence, but he said that if a man could not resist temptation then let him be a total abstainer.

Dr. WITHERS MOORE (Brighton), the president elect of the Association, was sure that they could endorse most cordially every word that had fallen from the worthy chairman. He thought that the National Temperance League had been very fortunate, and had shown great judgment in choosing such a gentleman as Dr. Bevan as chairman. No one, he went on, could be in practice forty years without being alive to the widespread evils of intemperance, and he was sure that they must hail with joy any movement to stem the dreadful tide of destruction. It was a dreadful thing to see our fellow-creatures going surely on to wretchedness in this world, and, it might be feared, misery in the world to come. He had great hopes that the effects of example and abstention from intoxicants would permeate through all society. But at the same time, taking the higher strata of society, he thought it was a question that would come to the front by-and-by, whether, having got rid of intemperance, people of this class had not given way to another habit quite as bad and destructive. He referred to the sub-cutaneous injection of morphia, the taking of chloral, and the use of chloroform. He knew himself one gentleman who for months injected under his skin thirty grains of morphia a day, and he was alive at this moment. We all know the difficulty of breaking the habits of intemperate people. He had said to such as these, when asked by a man what he should do, "Knock down the first person you meet after leaving my house; then you will be

sent to prison and cut off from all alcohol, which will be the best thing for you." In conclusion, he remarked that, though not a total abstainer himself, he was perfectly sure that there was a large class of persons whose only safety was in total abstinence; There was no half-way house for them.

Dr. J. A. JACOB, editor of the *Medical Press*, said he would approach the subject of intemperance from a direction in which most of his predecessors had not looked—the Irish standpoint. Being a resident in Ireland, a practitioner in Ireland, and for a quarter of a century associated with Irish journalism, as well as an Irish hospital surgeon, he thought he was qualified to say something about the Irish aspect of intemperance. He did not think that any nation under the sun was a harder nut to crack for temperance men than Ireland. In the first place the Irish were endowed with such a multitude of holidays by the religious circumstances of the country that the working population were thrown from time to time into temptations to amusement, which amusement in the minds of many of them was synonymous with drink. They had far more opportunities than persons living in England for lapsing into intemperate habits for this reason. One of Ireland's largest and most lucrative industries was the manufacture of whisky which could be obtained by any bibulous member of the community at a very small charge. Whilst a man in England came to a dead stop in drinking, because he could not consume the necessary quantity of porter to make him drunk, an Irishman, with his whisky, was differently situated—he never came to the conclusion that he had had enough. Another of the influences at work in promoting intemperance in Ireland was the well-known national disposition towards hospitality. For an Irishman to be in his fellow's company without offering him something in the way of entertainment was considered a slur and a reproach; and the system of treating friends in public-houses was regarded by the common people as almost indispen-

sable to existence. Therefore any success achieved in Ireland was a very critical test of what could be done by temperance agitation, because it was a test pursued under the worst possible circumstances; and he was glad to say, for the encouragement of that association, that the success of the temperance cause in Ireland had been very distinct. Though comparatively a young man, he could well recall the time when it was considered an opprobrium to acknowledge participation in any sentiment of a temperance character. So far from that being the case now in Ireland there was a temperance body which had made its political influence enormously felt in places where it would not be supposed. It was now a question for the consideration of candidates at elections whether they would make friends with the vendors of liquor or the advocates of temperance. The thing had come to be pretty nearly evenly balanced now, and their politicians found it extremely hard to sit on the two stools. That was a very delightful sign. A further delightful sign was the growth of lemon squashes. Men were not now ashamed in Ireland—indeed, some were very proud of it—to drink non-intoxicating liquors. With respect to the attitude of medical men toward the drinking customs, they could at least all meet on one common ground—that was to endeavour to eradicate from the minds of their patients the notion that nutrition and alcohol were synonymous terms. Those of them who were total abstainers, and those of them who were not, should join in their efforts to get that most fallacious and destructive idea out of the minds of the people. Alluding to the practice of giving intoxicants to children, with the idea of strengthening them, he said he had known a case of a child of eight years who had gone through a course of delirium tremens, having been fed on whisky since it was at the breast. Dr. Jacob resumed his seat amid loud applause.

Dr. ISAMBARD OWEN, of St. George's Hospital, London, though not a total abstainer himself, drew the attention of his medical brethren to a source of

danger to the cause of temperance which existed in a quarter where it was too often overlooked—he meant in the kitchen. For three years he worked as the medical registrar of his hospital, and during that period he used to make it a particular point to inquire into the alcoholic habits of every patient. He was much struck with the circumstance that amongst the most alcoholic people who came into the hospital was the house painter. He found out that it was a constant practice to give them beer and spirits to hurry them on with their work and get the smell of paint out of the house. Now, as assistant physician to the hospital, he was in the habit of treating a combined succession of domestic servants. He had been shocked to see the amount of alcoholic indulgence prevailing amongst this class, and he specially directed the attention of his brother practitioners to it.

Dr. PHILLIPPO, Jamaica, said that owing to the advance of temperance in that island—known for its rum—yellow fever had very much diminished. Though not a blue ribbon man himself, he thought that all honour should be given to those men and women who formed the Blue Ribbon Society, of which there was a branch in Jamaica, which was doing a noble work.

Surgeon-Major PRINGLE, in alluding to total abstinence in India, said that there were 11,000 teetotalers amongst soldiers in that Empire. He moved a cordial vote of thanks to the chairman.

Dr. CAMERON, Glasgow, who described himself as a life-long abstainer, seconded the motion, and advocated temperance from a personal standpoint, saying that, though he worked very hard amongst a common class of people, he had never required any stimulants.

Dr. HACK TUKE supported the vote of thanks to the chairman, which was put to the meeting and carried with enthusiastic applause; being acknowledged in a few genial sentences by Dr. BEVAN.

The meeting closed with a vote of thanks to the National Temperance League, moved by Dr. CAMERON, and acknowledged by Mr. RAE.

A NEW HOME FOR INEBRIATES.

THE Home for the Treatment and Cure of Inebriates, instituted by Mr. Harrison Branthwaite, F.R.C.S. Ed., was successfully inaugurated on Tuesday, 1st September. The home is very pleasantly situated in Crown Road, St. Margaret's, Twickenham, the main portion of the building having been at one time the residence of King Louis Philippe. The additions which have recently been made to it are well in keeping with the older portion, and the accommodation provided is in every way of a very satisfactory character. Besides the ordinary living rooms, there is a well-situated library and an excellent billiard-room. The home is surrounded by a beautiful garden, in which lawn tennis, bowls, and other games may be played. The river is only a few minutes' walk, and the surrounding country is very pretty, so that interiorally and exteriorally the High Shot House leaves nothing to be desired, except a sufficiency of patients, which will, no doubt, ere long be provided.

Dr. B. W. Richardson, F.R.S., who had promised to preside at the opening, was unfortunately prevented by an urgent professional duty from doing so; but his place at the excellently-served inaugural luncheon was ably filled by Dr. Norman Kerr, who said that Dr. Richardson, in telegraphing his regret at being unable to be present, sent his sincerest wishes for the successful opening of the home. With regard to the occasion which had brought them together, it was with very great pleasure that he had accepted Mr. Branthwaite's invitation to take part in such a gathering on several grounds. On the personal ground he, in common with all who were assembled there, and with many others who were with them in the spirit (not the ardent spirit) though not in the body, he rejoiced that their old friend, Mr. Harrison Branthwaite, had come forward as he had done to establish such a home as that. On the highest ground of personal esteem and true merit, professional skill and

far-seeing interest in the general temperance reform, they were all especially rejoiced at being present on such an occasion; while with reference to the general temperance question they would all feel, he was sure, that the opening of every well-conducted institution such as that was another landmark in the march which would happily by-and-by lead to the general spread of the great temperance reformation throughout this country and throughout the civilised world. He did not use the word temperance in the restricted sense of total abstinence, though some thought, and he with them, that the highest temperance was total abstinence from everything dangerous: but they were met in a sort of half-and-half way, for he believed there were about as many non-abstainers as abstainers present. He was glad to find that this was the case, because if either side attacked the other they would be able to settle their differences without the interposition of the chairman. While it was the fact that there were many different opinions as to the best way of abating the evils of intemperance, there was no difference whatever in the minds of all who had studied the subject of intemperance, whatever their personal practice as to intoxicating liquors, as to the best way of endeavouring to reform those fallen victims to the excessive use of alcoholic liquors. All were united in believing that the only means, under God, of enabling the inebriate to reform, and become once more fit and ready to do his duty, was by adopting the principle of total abstinence. He had known cases in which people had kept away from habits of intemperance without becoming total abstainers, but such cases were very rare indeed, and there were probably physical circumstances to account for them; but if they wanted to prevail in any way with victims of intemperance, the only safe platform to put before them was that of total abstinence. All were agreed upon that, and whether or not they thought that total abstinence was incumbent

on them as a duty, the fact remained indisputable that total abstinence was a safe practice, and that if a general practice of total abstinence prevailed there would be no need for such an institution as that at which they were met. There were many other matters on which they might agree, and there were many people who were not total abstainers who were yet as thoroughly in earnest as the most ardent advocate of total abstinence, that some means should be devised of dealing with intemperance, and that the stain which at present rested on the fair fame of England should by fair means or foul means be got rid of if the character of this country were to stand as it did in the days gone by. They must do all their part to hasten forward the time when temperance shall be the rule throughout this great community. In the promotion of the general temperance reformation there were a great many different wings. There was, in the first place, the wing of which he might say the advanced guard was present at that gathering, namely, the wing which had for its object the work of prevention, whose principle was that the best way to deal with this matter was to prevent the mischief happening. Another wing sought, by providing popular recreations, to overcome the temptations of drink. But apart from these, they had present several members of the management of one of the greatest existing temperance organisations; he referred to the National Temperance League. In the unavoidable absence of the president of the League, the Bishop of London, they were honoured by the presence of Mr. John Taylor, the chairman of the committee of the National Temperance League, Mr. Robert Rae, and other gentlemen connected with that organisation. The chairman concluded by wishing in the name of all present success to the Home, and called upon Mr. John Taylor to respond to the sentiment of the National Temperance League.

Mr. JOHN TAYLOR, in responding, said he felt honoured by being thus associated with the National Temperance League, and by being called on

thus early to say a few words. As to the fact of both abstainers and non-abstainers being present, he was happy and proud to be classed among the former; but the great progress which the temperance movement had made was shown by the fact that at any mixed meeting, whatever might be the antecedents of those who took part in it, one could refer to the question of temperance in its extremest acceptance, without provoking the hostility or the violent feeling that used to be shown years ago. He remembered the time when a total abstainer was never mentioned without some opprobrious or contemptuous epithet; see the difference in this particular in the present day. Total abstainers could afford to be good humoured in their advocacy of the cause, because they must really feel how much they were the debtors of the movement and what great blessings they had received from it. Personally, he had forgotten what it was to have indigestion. Age had told but little on his health and strength, and, in fact, he felt that his constitution was better than it was when he was forty years younger; so that he for one felt very grateful to total abstinence, and he was more and more convinced of the immense and untold good it was effecting in this country of ours. If, in spite of all the teaching and experience on the question, they still had to deplore such a vast amount of intemperance as existed, and the spending of over £100,000,000 in one year in alcoholic liquors, he would ask them to imagine what would be the state of things if the drinking habits of the people had gone on without check or remonstrance or teaching of the opposite kind. They were told that there was nothing so delusive as facts, and nothing less reliable than figures; and when they contemplated the still enormous number of establishments that sell intoxicating liquors, and when they called to mind the tremendous revenue derived from their sale, they might be inclined to think that the temperance movement had made but little progress; but as they mixed in society they

must feel what a great change had taken place in the last thirty-five or forty years in reference to intoxicating liquors. When this movement commenced, drinking customs were almost compulsory in every phase of society, from the highest to the lowest. Among the working classes the drinking customs were especially onerous and tyrannical; in commercial life they had ruined hundreds and thousands, while in fashionable life they were equally tyrannical and overpowering. One great achievement of the temperance reformation, therefore, was that it had obtained for every class in society perfect freedom to abstain from intoxicating liquors if they chose to do so. Nobody was now considered peculiar or eccentric who so abstained, and in this way public opinion, from being opposed to the principle of total abstinence, had now become strongly in its favour. But in spite of all that had been done and said the victims of intemperance were still very numerous, and they existed in every circle in society, even amongst those who were supposed to be most protected and most sheltered from a vice of this character. It was this fact which justified the establishment of such a home as that in which they were gathered, and to which one and all wished every possible success. All must feel that Mr. Branthwaite was taking a very self-sacrificing course in opening such an institution as this. The responsibility, the chances of failure, the toil and constant supervision and the watchfulness would undoubtedly be great, while the reward, as the world counts reward, must be small even at the best. This was not a mere business speculation, but a philanthropic act on the part of Mr. Branthwaite, based on the knowledge which he had acquired in many years' successful medical practice. It needed but few words to emphasize his sense of the obligation which society was under to Mr. Branthwaite in opening an establishment of that kind. Not only for the sake of his patients, but for his own sake, they all wished him every possible success. He would have a great advantage in appealing

to his own many years of total abstinence as to the personal advantage of the adoption of that principle, quite apart from any question of intemperance. It was fatal for any man who wished to emancipate himself or his fellow-man from habits of intemperance, if he looked upon total abstinence as a penance, or a sort of hair-shirt which was only to be worn for a short time. Mr. Branthwaite would be able to show those under his charge that temperance was the right rule of life, and that, apart from any other circumstance, it was its own reward.

Dr. ALFRED CARPENTER rose to propose success to the establishment which they had all been looking over with so much pleasure. Success could hardly be attained if those who were present did not report to the outer world something of what they had seen in their walk over the building and over the grounds. But he thought the mere fact that the chair was occupied by Dr. Norman Kerr ought to be, so far as the outer world was concerned, a sufficient pledge that Mr. Branthwaite in undertaking the management of an establishment like that was a man who was fully competent to take it under his charge and bring it to a successful issue. The connection which the chairman had had with the Dalrymple Home and with other establishments devoted to the same purpose was a proof that he had paid great attention to the subject of the treatment and cure of inebriety, and, therefore, Dr. Norman Kerr would not be in that chair unless he felt that there was likely to be a good result from what Mr. Branthwaite had undertaken; and they might feel satisfied that whoever placed himself in that home would be doing the very best they could to promote the view that every individual ought to have who comes into this establishment—namely, to be cured of his disease. He used the word "disease" advisedly; because no one could have studied the incidence of drinking habits in individuals without being satisfied that intemperance became in the case of many a similar

state to that which arose from vices of every kind, and that the vice thus developed into a disease which must be cured like every other disease. There was one part of their mission which those who belonged to the temperance legion believed to be absolutely indisputable, and that was that prevention was better than cure ; but the difficulty in such an establishment was to get patients to enter while they were in a stage early enough to allow of the treatment having a very rapid effect. The sooner the disease was attacked, the sooner would the cure be effected. This home, with the Dalrymple and other homes that had been established, had been permitted to be established by an Act of Parliament. The importunity with which the society which the chairman and himself were connected with had addressed the House of Commons had, through the medium of Dr. Cameron, Member of Parliament for Glasgow, secured an Act under which homes such as this one could be established. It was very curious to notice how difficulties were raised by individuals, especially by the legal profession, who strove so very strongly for the liberty of the subject. However, the Act had been passed for a term of years, and he hoped that before the expiry of the Act the record of the good done by the homes would be such that an Act would be passed, making it compulsory that inebriates should be put under proper restraint. Ten years ago Lord Beaconsfield and Mr. Gladstone went to the people with the mottoes, "*Salus populi supremis lex*" in the one case, and "*Sanitas sanitatum, omnia sanitas*" in the other. They believed that the people of this land were prepared to follow them everywhere ; but they were in advance of popular opinion, and they dropped their flags like hot potatoes. But the time would come ere long when the question for the people to decide would be whether prevention was not better than cure, and to that end such institutions as this would go on collecting valuable information ; and he hoped that the home

would be kept well full, so that statistics might be prepared which would be quite convincing to the House of Commons.

MR. HARRISON BRANTHWAITE, who was very cordially received, acknowledged the compliment, and said he had letters expressing regret at their inability to be present from the Bishop of London, Sir Philip Cunliffe Owen, Sir Wilfrid Lawson, Mr. S. Morley, M.P., Mr. Arthur Pease, M.P., Mr. Caine, M.P., the Hon. Conrad Dillon, the Rev. J. W. Horsley, and many others. He felt greatly honoured by the presence of so many old and valued friends who knew his opinions with regard to intoxicating drinks, and he was also pleased that he had had the opportunity of shaking hands with some of those who held prominent positions in literature and science. He had been asked more than once if he had any particular policy in conducting the establishment. Now, a man at the present day was no good without a policy of some kind. One part of his policy his guests had seen carried out, in the absence of any drink with a name which could by any possibility remind a man who was a confirmed inebriate of that which had been his ruin. He did not believe in teetotal breweries, nor in russet champagne, tonic stout, anti-Burton, non-alcoholic bitter, or the like. Then he proposed as much as possible, by the aid of good literature and other means, to endeavour to restore the lost mental power which seemed to be one of the great symptoms of the disease of drunkenness. The whole of his staff would be of the masculine gender. That he had been assured was the weak point in his armour. But while he would be second to no man in his respect for the fair sex, or in admitting their great power and influence, until he was proved to be wrong, he intended to keep the ladies outside of High Shot House. His staff, from Mr. Taylor, the manager, to the page boy, were all pledged abstainers, and they were all, under their agreements, liable to instant dismissal for either breaking their personal pledges, or for directly or indirectly introducing in-

toxicating drinks into that establishment.

Mr. F. R. MUNTON, speaking for the legal profession, or, at all events, for the solicitors, said they were pretty generally of the opinion that a compulsory Act should be passed with regard to those who had thrown everything aside for the disgusting and disgraceful practice of intemperance. Mr. Munton, in complimentary terms, proposed a vote of thanks to the chairman.

Mr. H. T. REED, in seconding the vote, humorously remarked that the house and its surroundings were so delightful as to almost tempt one to qualify for a sojourn there.

The vote having been carried by acclamation,

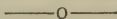
The CHAIRMAN returned thanks, and pointed out that any serious case of inebriety would require at least a year to cure. He referred to the seventeenth annual report of the largest Home for Inebriates in the world—that at Fort Hamilton, New York—and said that in the past year 344 patients were admitted into that home. That was only one of many similar institutions in America. In America inebriety was properly recognised as a disease, and there was, therefore, no difficulty in getting people to enter the homes. When such a sentiment spread to this country it would be a

good thing for the temperance cause. The victims of intemperance needed their assistance and encouragement, not their scorn and contempt. The Chairman also referred to the fifth annual report of the Government Inspector of the five existing Homes for Inebriates as the most encouraging report which had been presented to the Government on the question since the passing of the Habitual Drunkards Act.

Mr. W. R. SELWAY, M.B.W., proposed "The Press," which was responded to by Mr. J. EWING RITCHIE; and the Rev. G. W. MCCREE proposed "The Ladies," for whom Mr. WILLIAMS returned thanks.

The CHAIRMAN then wished God-speed and every success to the Home—a sentiment which was very cordially re-echoed.

The formal part of the proceedings was thus brought to a close, but many of the visitors remained and partook of the genial hospitality of Mr. and Mrs. Branthwaite until the evening was well advanced; one and all concurring in the opinion that the High Shot Home, if it only receives the support to which it is entitled, by reason of the zeal and ability of its founder and conductor, will become an important factor in the future of the temperance movement.



THE HABITUAL DRUNKARDS ACT,

42 & 43 VICT. CAP. 19.

FIFTH REPORT OF THE INSPECTOR OF RETREATS, UNDER THE HABITUAL DRUNKARDS ACT, 1879, FOR THE YEAR, 1884.

Home Office, 31st July, 1885.

SIR,—I have the honour to submit my fifth annual Report as Inspector under the Habitual Drunkards Act, 1879, together with a schedule showing the number and situation of the retreats, with other details, and a copy of the Model Rules.

1. No alterations have been made in the Model Rules during the past

year, but I propose, in a separate Report, to submit for your consideration certain suggestions with respect to pawnbrokers, patients' letters, leave of absence, &c.

2. The general condition of the different retreats has been on the whole very good, and the health of the patients very satisfactory.

3. In the aggregate I have made

twenty-seven visits to these retreats during the year, and in almost every instance without previous notice. As a rule the retreats have worked well, and the complaints made to me either by the licensees or patients have been few in number,

4. With respect to results of treatment and the general working of the Act, I have received the following reports from the different licensees:

From Westgate-on-Sea I have received the following:—

"In reviewing my work of last year (1884), I am glad to say I have met with decided success in the treatment of the majority of cases that have come under my care.

"Of the 56* patients who placed themselves in this retreat, only a very small number left without deriving great benefit, which I trust in the majority of cases will be lasting."

The licensee finds, moreover, that but few object to sign under the Act, and that three or four have even returned to him a second time.

Mr. Gray, of Cannock, does not hold such a favourable opinion of the usefulness of the Act as the other licensees.

From the memorandum he has forwarded to me he appears to consider that at present there is only one advantage in the Act, viz., that which enables a patient to bind himself for a long term, whereas a private patient, *i.e.*, one which is not bound, would probably leave when relieved of his symptoms, though not absolutely cured.

He points out that there are no provisions which empower a licensee to prevent a patient from "going out of a retreat," *i.e.*, escaping; and he thinks that "as the provisions for punishment have not been carried out," the patient views this part of the Act as a myth, which therefore does "not act as a preventive against future disobedience."

He also finds, at times, great difficulty in country districts in getting two justices together to attest the signature of the patient.

The medical licensee of the Dalrymple Retreat says, "With regard to the Act, I have every reason (with few exceptions) to be well satisfied with its working, and I think from the results so far there is every cause for congratulation and encouragement. On the other hand, I find a hindrance arising from the necessity for signature before *two* magistrates; and, for the benefit of country residents entering, I would suggest consideration of the possibility of making *one* magistrate suffice for country districts as well as London; this would be a boon to all concerned, and increase the facilities for admission."

The licensees of Colman Hill express themselves as follows:—

"On the whole, considering the very limited powers the Act gives in the first instance, we have found it work well. When once the patients sign and are admitted there is no difficulty in controlling them, and the improvement in general health and mental tone soon manifests itself, and is well marked. It is too soon to speak of the ultimate results as far as cases are concerned, but there seems good grounds for expecting a fair proportion of cases will be permanently restored, whilst improvement may be considered *certain* in almost every case.

"Judging from the last nine months, we are much encouraged to hope for good results in future.

"Of this we feel confident, that twelve months may be considered the minimum time that permanent good can be obtained."

5. The Act insists that two justices of the peace sitting together shall attest the patient's signature to his application for admission to a retreat. The licensees and others interested in the Act are of opinion that the number of admissions would be greatly increased if it were legal for one justice to witness the signature, as may at present be done by one stipendiary magistrate.

Westgate and Colman Hill have, from their position, greater facilities in obtaining the requisite number of justices to admit patients than Cannock and Rickmansworth. Private

* Fifteen of these were private patients.

patients are received in the retreats as well as patients under the Act, and in those establishments where the difficulty in promptly finding magistrates

is greatest, the number of private patients bears a larger proportion to those under the Act, as will be seen from the following table:—

WESTGATE.		COLMAN HILL.		CANNOCK.		RICKMANSWORTH.	
Patients under Act.	Private Patients.	Patients under Act.	Private Patients.	Patients under Act.	Private Patients.	Patients under Act.	Private Patients.
28	10	11	5	15	19	18	17

It is, in my opinion, desirable to discourage the reception of private patients who are not bound in the same retreat as those who are bound. My observation induces me to think they have had, in many instances, a bad effect on the well working of the Act, and of the establishments themselves, and I think, therefore, that every difficulty or impediment in the way of patients placing themselves under the Act immediately on or before reception should be removed, but I am very doubtful whether this should be done by reducing the number of attesting magistrates. The difficulty would doubtless be overcome to a great extent if the friends of the intending patient were to arrange, either themselves or through their solicitor, for his admission before local justices or before one stipendiary magistrate on their way to the retreat, instead of leaving the matter in the hands of the licensee, as has been generally the case.

6. Persons who enter these retreats under the provision of the Act may roughly be divided into two classes.

First, those who, in consequence of their intemperate habits, are the despair and terror of their friends; and, secondly, those who, knowing the danger into which they are drifting, desire to separate themselves for a time from the temptation of every-day life.

Now, although a patient is supposed of his own free will to place himself in a retreat for a definite time, it is by no means in all cases a purely voluntary act. The inebriate of class 1,

broken down in health and in will power, is unable to resist the persuasion of relations or friends, and signs away his temporary liberty, not unwillingly, but without any intention on his own part of profiting by treatment, and without any desire to reform. A patient of this class takes every opportunity of obtaining drink, and (being deprived of pocket-money by the licensee) does not scruple to pawn his clothes, and sometimes even to steal, in order to obtain the wherewithal to gratify his morbid desire for stimulants. The admission of such a patient often proves disastrous to the peace and harmony of the retreat, and—as the powers given by the Act for the control of such persons is so very limited—the licensee is sooner or later compelled, for the good of his other patients, and satisfactory working of his establishment, to take advantage of section 12 and obtain the refractory patient's discharge by a magistrate.

On the other hand those who enter the retreat with an earnest desire for improvement prove orderly and well conducted patients, and form the class from which permanent cures may alone be expected. Happily, both for the licensees and for the patients themselves, the great majority of cases who pass through the retreats belong to the latter class.

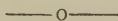
7. During the present year (1885) a fifth retreat for the reception of two male and two female patients has been licensed to F. M. Brown, Esq., L.R.C.P., at Wansford, near Peterborough.

There have been changes in two of the existing retreats. Mr. Brown, of Westgate, has moved into a new and larger house—of the same name as his old one—built especially as a retreat, and standing in its own grounds; and Mr. Gray has left Cannock, and taken a larger and more suitable house, surrounded by very extensive grounds, near Walsall. It is called Old Park

Hall, and is licensed for eight male and two female patients.

I have the honour to be, Sir,
Your most obedient servant,
(Signed) H. W. HOFFMAN,
Inspector of Retreats.

The Right Honourable
Sir R. A. Cross,
Secretary of State, Home Office.



ALCOHOL IN SMALL-POX.

OUR readers are probably familiar with the scandal which has arisen concerning the Eastern Hospitals of London under the Asylums Board, in connection with a reported enormous expenditure on intoxicants, and which has eventuated in an official inquiry which is at present being conducted. About the same period there was a great reduction in the amount of such remedies prescribed at the hospital ships for cases of small-pox, and it was alleged that the sudden decrease in the prescription of alcohol on the ships had been brought about in view of the scandal at the hospitals. Upon this, the medical officer of the ships was called upon by the Board to report as to the influence of the decreased use on the mortality and on the convalescence of the patients.

The superintending medical officer, Dr. Birdwood, reported that his action with reference to alcohol had had nothing to do with the hospitals' scandal, and had begun shortly after his appointment a year previously. The experiment has been a fair and impartial one, as Dr. Birdwood states that he entered on his duties with a strong bias in favour of the plentiful use of alcohol in small-pox, but was appalled at the prevalence of inflammatory complications. His colleague, Mr. Bott, had directed his attention to the injurious effects of alcohol. The lessened use of alcohol had begun with children and gone gradually on, ward by ward. The result proved favourable, and encouraged Dr. Bird-

wood and his colleague, Mr. Chatworthy, to extend the experiment.

It must also be borne in mind that Dr. Birdwood has not discontinued the use of alcohol entirely. He has not cut it off in the case of hard drinkers, or even in every case among the more moderate. He and his *confrères* hold that there are conditions in which alcohol is necessary, when it may be the only food, but that these conditions are not common in small-pox.

What, then, have been the results of this interesting series of experiments? Spirits began to fall in July, 1884, when 1,060 ounces were used in a week. They fell still lower to 40 ounces in the week ending January, 1885. After a rise to 580 ounces in the fourth week thereafter, they fell to 13 ounces in the week ending the 14th March, and were then dispensed with. Wine. — From 1,142 ounces in the week ending the 2nd August, 1884, wine declined to 173 ounces in the week ending the 8th November. After a rise to 769 ounces, wine fell gradually to 74 ounces in the week ending March 28, and was thereafter discontinued. Beer remained at between 500 and 1,000 pints a week till the end of October, and fell till the end of March. Since that time it has been used moderately for convalescents.

While small-pox with a mortality of 15 per 1,000 is still prevalent in the metropolis, though the gravity of the cases treated at the ships has increased the death-rate has remained stationary at less than 7 per 1,000. Dr. Birdwood

attributes a considerable share in the improvement to increased professional experience, to better nursing, to a simpler dietary, and to sanitary and hygienic changes; but, after due allowance for all these contributing factors, he is of opinion that the lessened consumption of alcohol has had its influence in preventing any increase in the death-rate proportionate to the increased gravity of the character of the cases treated.

Dr. Birdwood reports that there has been a marked improvement in the recovery of the patients. In his opinion convalescence has been more rapid, and fewer patients have been afflicted with abscesses and boils. When such complications have occurred there have been smaller eruptions, and fewer of them. The severe cases did better, and not nearly so many were hopelessly enfeebled by a long course of suppuration.

Such an unprejudiced record of excellent results, from a greatly lessened resort to alcohol in the treatment of small-pox, cannot fail to strengthen the hands of those medical men who have laboured for a careful and discriminate therapeutic use of intoxicating remedies.

We give the following extracts from Dr. Birdwood's report respecting the reduction in the use of alcoholic drinks:—

"The reduction began shortly after my appointment; I started with a strong bias in favour of the plentiful use of alcohol in the treatment of small-pox, but I was appalled at the prevalence of inflammatory complications. My colleague, Mr. Bott, directed my attention to the injurious effects of alcohol. I authorised him to investigate the matter guardedly and carefully. He began with children and extended the non-prescription of alcohol ward by ward. A short experience of this treatment demonstrated a falling off in the number attacked with abscesses. All honour to him for this work. I adopted his treatment for the patients under my personal charge, and subsequently Mr. Clatworthy did so. Side by side in this hospital the two sets of

cases were watched. I am satisfied with the result. The disuse of alcohol has, in my opinion, contributed its share in keeping the death-rate low. In one complication (delirium) the use of alcohol was continued as I thought it was beneficial, but case after case taught me I was wrong, and I have abandoned it as a sedative. It produced a temporary quiet much as if the patient had been stunned by a well-regulated blow.

"Two points deserve allusion. The different kinds of drink might have different actions, and it might be unwise suddenly to stop alcohol during the illness of hard drinkers.

"These parts of the question received special and anxious attention, but spirits, wine, and beer have been given up. It is not, however, to be understood that we give them up in any and every case. I admit, and my colleagues admit, that there are conditions in which alcohol is necessary, in which alcohol may be the only food; these conditions are not common in small-pox.

"The reduction in the use of alcohol took place gradually.

"*Spirits*.—Fall began week ending 19th July, 1884, when 1,060 ounces were used; fell to 40 ounces in week ending 3rd January; rose to 580 ounces in week ending 31st January, 1885; fell to 13 ounces in week ending 14th March, and then discontinued.

"*Wine*.—Fall began week ending 2nd August, 1884, when 1,142 ounces were given; declined till 8th November, when 173 ounces were given; rose next week to 769 ounces; fell gradually to 74 ounces in week ending 28th March, and then discontinued.

"*Beer*.—Remained at between 500 and 1,000 pints a week till end of October; it fell till end of March. Since then it has been moderately used for convalescents.

"Alcohol, however, is not the only stimulant, it is not even the best stimulant; several drugs possess the property, and are administered if in our opinion their use is indicated.

"Every case of sickness has to be

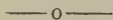
judged independently. If I hesitated to withdraw any article I thought was exercising an unfavourable influence I would hold myself unworthy of the position in which you have placed me.

"I believe alcohol to be injurious in the treatment of acute small-pox. I have discontinued prescribing it."

"P.S.—In the *Metropolitan*, 13th June, 1885, Sir Edmund Currie is reported to have said:—'In view of the inquiry now going on with reference to the Homerton hospitals, the medical officer of the hospital ships has suddenly reduced the stimulants given to patients from large quantities to none at all.' I had written my report before I saw this extract. I see no reason to alter one word, and present it as written. My report shows that the amount of stimulants, compared with the number of patients, has been gradually reduced since I was appointed a year ago. It had

been discontinued on *Atlas* long before it was discontinued on *Castalia*. I record my emphatic denial of the charge that I was in any way influenced by the reports of the inquiry on the Eastern Hospitals; and I assert as emphatically that it was only on account of the injury spirits, wine, and beer were doing my patients, that I no longer order them, except in special cases.

"Neither the Committee nor any member of it had ever suggested, or in any way attempted to induce me to give less. The treatment (including dieting) has been left entirely to my discretion, in conformity with the Local Government Board Order (Art. XVI., and Art. LXXII., Nos. 4 and 9, 10th Feb., 1875). Acting on the authority vested in me by that order I accept the sole responsibility, and I alone have the power to say what the patients are to eat and drink."



ALCOHOLIC PARALYSIS.

THE immediate and transient effects of an excessive quantity of alcohol upon the human nervous system, whether they are manifested in the form of drunkenness, or of delirium tremens, or of an acute attack of insanity, are well known. Scarcely less evident are the effects produced upon the nervous system by a less excessive, but a more prolonged, abuse of alcoholic drinks. These effects may be manifested either in a general failure of physical and mental power, or in a form of disease closely resembling progressive paralytic dementia, or in various forms of chronic insanity, or in epilepsy, or in neuralgia, or in paralysis. In the acute form of alcoholic poisoning, no change in the structure of the nervous system has been found, except that the meninges in common with the internal organs and the mucous membranes are the seat of a very decided injection and of a slight exudation. In the chronic form of alcoholism, a number of patho-

logical changes have been discovered in the nervous system, which, however, vary greatly in different cases. Of late years the paralysis which results from the abuse of alcohol has been accurately described by numerous observers, and the attempt has been made to discover the lesion of the nervous system, which is associated with this form of paralysis. Two cases which are reported by Dr. Henry Hun, of Albany, in the *American Journal of Medical Sciences* for April, 1885, are typical examples of this disease, and contribute to a better understanding of it. Dr. Hun has collected the recorded cases of alcoholic paralysis, and from their study he holds that we are justified in regarding it as a special form of disease with the following symptoms. After a number of cerebral and gastric disturbances due to the alcoholic poisoning, the symptoms of the disease proper commence with neuralgic pains and paræsthesia in the legs, which gradually extend to the

upper extremity, and which are accompanied at first by hyperæsthesia, later by anæsthesia, and in severe cases by retardation of the conduction of pain. Along with these symptoms appears a muscular weakness which steadily increases to an extreme degree of paralysis, and is accompanied by rapid atrophy and by great sensitiveness of the muscles to pressure and to passive motion. Both the sensory and the motor disturbances are symmetrically distributed, and the paralysis attacks especially the extensor muscles. In addition to these motor and sensory symptoms there is also a decided degree of ataxia. The tendon reflexes are abolished, and vaso-motor symptoms, such as oedema, congestion, &c., are usually present. Symptoms of mental disturbance are always present in the form of loss of memory, and in transient delirium. The lesion is in all probability a degeneration of the peripheral nerve fibres and of the nerve cells in the cerebral cortex, together with a chronic congestion or inflammation of the pia mater. This lesion explains well the symptoms, although it is certainly curious that alcohol should not attack the spinal cord, but only the highest and lowest part of the nervous system, if one may so call the cortex of the brain and the terminal branches of the peripheral nerves.—*Medical Times*, June 6.

Four stages may be recognised in the popularisation of medical knowledge. The medical scientist first of all discovers or differentiates the disease from others with which it has been confounded. A discussion then ensues between the more learned of the profession; next the solid nucleus of acquired new knowledge becomes the property of every medical practitioner; and, finally, the practitioner dispenses it broadcast to the world. So it is that the pathology of the present generation of medical men becomes the pathology of the next generation of lay people; for it takes about a generation of men to popularise scientific knowledge. Alcoholic paralysis is one of those affections which is rapidly entering on the third stage

of its career. We should have said that it had already reached its third stage were it not for the questions that continually come before us. In 1852 Magnus Huss treated of the nervous symptoms that occur in chronic alcoholism, and recognised a paralytic form. But he also said that the forms were mixed, so that we might have an anæsthetic complicating a paralytic, epileptic, or even a hyperæsthetic variety. As to the changes in the nervous system, Huss knew nothing positively, though he conjectured that the spinal cord and medulla oblongata were involved. The fact that the nervous symptoms tended to disappear when the alcohol was prohibited was also known to him. Lancereaux gave a more systematic description of the disease in 1864. Leudet published some cases of the painful and hyperæsthetic form of the disease three years later, and he also expressed the opinion that the hyperæsthetic variety was of more frequent occurrence than Magnus Huss had supposed. Dr. Reginald Thompson published a case of paralysis of the extensors of the forearm, probably due to alcoholic excess, in the *Transactions of the Royal Medical and Chirurgical Society* for 1868. But it was in 1872 that Dr. Wilks brought the subject prominently before the profession in England (*vide the Lancet*, March 9, 1872). He had for some years previously observed cases of paraplegia in ladies who were addicted to alcoholic excesses. Dr. Wilks laid stress on the occurrence of severe pains in all the limbs, but especially in the legs, which were much wasted. The numbness and anæsthesia were also noted by him, and hyperæsthesia was also mentioned. He regarded the disease as due to an alteration in the structure of the spinal cord similar to that which takes place in the brain in chronic alcoholism. These changes were looked upon as degeneration of the nervous tissues and thickening of the meninges. In 1879 Westphal put on record a case of chronic alcoholism in which the patient walked like an ataxic. Lancereaux contributed largely to our knowledge in

1881. He asserted that the disease was more common in women than in men, in the proportion of twelve to three; that the faradic excitability of the affected muscles was greatly diminished or lost altogether. Evident changes were found in the peripheral nerves. Two years later he drew attention to the symmetry of the paralysis, and remarked that the lower extremities were always more affected than the upper, and the extensor muscles more than the flexors. Fischer came to the conclusion in 1882 that the essential lesion was a subacute inflammation of the grey matter, the posterior columns and the internal portions of the lateral columns of the spinal cord, but he also allowed that a peripheral lesion would account for all the symptoms. Last year Dr. Broadbent reported some cases of the diseases before the Royal Medical and Chirurgical Society, which were mainly interesting from the renewed light that arose in the discussion, in which Dr. Wilks and Dr. Buzzard took a prominent part. Dr. Buzzard pointed out the lancing character of the pains and the rapid wasting of muscle, which was attended by the signs of the "reaction of degeneration." According to Charcot and Féré, the muscles of the face are never affected. In an excellent article by Hun on the subject, in the *American Journal of Medical Sciences* of April, 1885, may be found a report of two cases of the disease and a *résumé* of the literature, together with some original remarks. Hun thinks that we are justified in regarding alcoholic paralysis as "a special form of disease with the following symptoms: After a number of cerebral and gastric disturbances due to the alcoholic poisoning, the symptoms of the disease proper commence with neuralgic pains and paræsthesiæ in the legs, which gradually extend to the upper extremity, and which are accompanied at first by hyperæsthesia, later by anæsthesia, and in severe cases by retardation of the conduction of pain." The muscular weakness, rapid atrophy of muscles, and great sensitiveness of

the muscles to pressure and passive motion are also referred to. He holds that, in addition to the motor and sensory phenomena, there is decided ataxia. The tendon reflexes are abolished, and certain vasomotor symptoms are usually present. Loss of memory and transient delirium are also mentioned. Hun is of opinion that the disease is dependent on degeneration of the peripheral nerves in addition to degeneration of the nerve cells of the cerebral vortex. With regard to disease in the latter situation, it may be urged that the peripheral neuritis is amply sufficient to account for the production of paralysis, hyperæsthesia, pains, and muscular atrophy. It is difficult, as Hun admits, to perceive why the spinal cord should escape in chronic alcoholism; and although positive alterations have not been definitely met with in the spinal marrow, it is more than likely that alcoholism damages its structure. Nor must we forget that Dr. A. de Watteville has suggested that a dynamic change, a molecular alteration, of a transient character, in the large nerve cells of the anterior cornua, may be a sufficient cause of degeneration of the peripheral parts of the nerve fibres, which, it should not be lost sight of, are really nothing but distant portions of the nerve cells. In his fatal case Hun observed degeneration and shrinking up of the nerve cells in the cortex and congestion of the pia mater, with effusion of serum into the sub-arachnoid space. He considered that the ataxia, regarded by him as a sign apart from paralysis, might be due, in part at least, to cerebral disturbance, for "it was associated with tremor, and in its appearance resembled the uncertain movements made by a drunken man, which form of inco-ordination is probably of cerebral origin." Although we probably now know as much of alcoholic paralysis as we do of many other nervous diseases, there yet remains for it, as for them, the most difficult of all problems—the exact pathogeny.—*Lancet*, September 5.

WELCOME TO DR. JOSEPH PARRISH.

AN interesting ceremony took place on Saturday, 19th September, in the concert hall of the Dalrymple Home for Inebriates, at Rickmansworth, when Dr. Joseph Parrish, president of the American Association for the Cure of Inebriates, who is in this country on a tour of inspection of institutions for the treatment of the victims of alcoholic intemperance, was introduced to a representative gathering of English teetotalers, and welcomed by them. The guests, who numbered about 100, both ladies and gentlemen, travelled from Euston by special train, and at Rickmansworth carriages were in waiting to convey the guests to the Home, which is situate a mile from the station. At the Home they were received by Dr. Norman Kerr, president of the Society for the Study and Cure of Inebriety, and by the medical superintendent, Dr. R. Welch Branthwaite, and Mrs. Branthwaite. Luncheon was served to the guests on their arrival, after which they were free to inspect the Home. The unpropitious state of the weather rendered most of the visitors disinclined to explore the grounds. About half-past three the company present assembled in the concert-hall. Dr. Norman Kerr presided, having Dr. Parrish on his right hand. In opening the proceedings

The CHAIRMAN said it afforded him much pleasure, in the name of the council of the Society for the Study and Cure of Inebriety, to offer a reception in so appropriate a place to Dr. Joseph Parrish, whose labours of love on behalf of the inebriate were so well known, and who had once before on a visit to Britain rendered good service to the cause of legislation for habitual drunkards. Dr. Parrish's evidence before the late Dr. Donald Dalrymple's committee had been most valuable. Dr. Parrish was President of the American Association for the Cure of Inebriates, a body which had agitated this question for sixteen years, and published an able quarterly Journal on the subject. Dr. Kerr congratulated

Dr. Parrish on the decided advance which had been made since their guest's last visit to this country. Dr. Parrish would see five retreats licensed under the Habitual Drunkards Act, and would discern in the conspicuous first year's work of the Society for the Study and Cure of Inebriety steady and genuine progress in the acknowledgment of the truth that inebriety was a physical disease, demanding treatment as such. There remained, however, much to be done. Though teetotal reformers and Christian workers were beginning to realise the fact that there was a physical aspect of inebriety, only a comparatively limited number recognised in alcoholic excess something more than sin, vice, or crime. Habitual drunkenness was a bodily disease as well as a sinful act, and not till the Church and the State saw this fundamental truth would intemperance be effectually grappled with. It was disgraceful, he maintained, that while in America the poorest inebriate could be treated in a home, in England there was no home under the Act for either males or females in indigent circumstances, and no home, licensed or unlicensed, for impecunious males. In America, also, any confirmed inebriate could enter a home of his own desire without let or hindrance, but in this country there had to be an appearance before two justices (a most forbidding procedure, especially to ladies), and there were other humiliating barriers. All such restrictions should be swept away; the risk of unlawful detention being easily guarded against. The Act, too, should be made permanent as well as improved. Other amendments were needed, and Dr. Kerr hoped that the proceedings of that day would hasten the advent of better legislation, and would tend to unite, in one grand effort on behalf of the victims of intemperance, abstainers, non-abstainers, and prohibitionists on both sides of the Atlantic. In conclusion he proposed a resolution of welcome to Dr. Parrish.

Dr. LANGDON DOWN seconded this resolution, and the meeting was addressed in support of it by Mr. John Hilton (United Kingdom Alliance), Mr. F. Sherlock (Church of England Temperance Society), Mr. Arthur Gunn (National Temperance League), Mrs. Lucas (British Women's Temperance Association), the Rev. G. M. Murphy, Dr. Williams (British Medical Temperance Association), Mr. R. C. Morgan, Surgeon-General Francis, Surgeon-Major Poole, Mr. Thomas Hudson, Mr. J. W. Leng (National Temperance League).

The resolution having been cordially adopted,

Dr. JOSEPH PARISH, in acknowledging the compliment, spoke of the difficulties which the treatment of drunkenness as a disease had encountered in America. This view, however, was finding wider acceptance, as it was seen that drunkenness, like other diseases, tended to bring about death, while vices, such as lying and thieving, were distinguished from disease by not having that effect. It was becoming an established sentiment among the people that drunkenness must be considered from a physical aspect—not that moral means must not be used, or religion inculcated, but the physical aspect must not be neglected. He spoke in praise of the Dalrymple

Home, where, he said, both sides of the question were recognised, the inmates being not only medically treated, but exhorted to pray to God for moral strength. He objected to any legal restrictions upon entering such a home, and said the afflicted ought to have the right and liberty to seek help without having to ask a magistrate's permission to do so. In America no such restriction existed. He claimed sympathy for the inebriate who sought to amend his ways, and who, he believed, had more of moral struggle in an hour than others more fortunate had in a lifetime. He congratulated the temperance party in this country upon the absence of sectarianism from their ranks. He wished there was less of sectarian strife among teetotal workers in America, and promised, on his return, to point them to the better example in this respect shown by Great Britain. In conclusion, he thanked the meeting for their kind reception of him.

Dr. DANFORD THOMAS (Coroner for West Middlesex) moved, and Mr. WALLER (United States Consul General) seconded, a vote of thanks to the chairman, and the proceedings came to a close, the visitors immediately afterwards returning to town by special train.



THE TREATMENT OF CHOLERA.

In a paper on this subject published in the *British Medical Journal* (Aug. 29), Surgeon-Major Pringle, M.D., late Sanitary Department, H.M.S. Bengal Army, says:—"Nursing is the sheet-anchor in cholera, and should be persevered with in the stage of collapse, till death has, without doubt, claimed its victim. I saw a soldier who had been put into the stretcher with the pick-axe and spade, to be buried, when the column halted on its march from Saharanpur to Chuckrata, in 1879, and who was found sitting up when his comrades came to bury him. I knew a Bengal civilian, now serving

the Government, who heard the door shut, and the order given for his coffin; and dead-houses could, I fear, tell more sad tales than the one I know. Let everything connected with the treatment of cholera be done quietly, brightly, and courageously, remembering that nothing gives the poor sufferer courage like the exhibition of it.

"As to medicinal treatment, I have tried all and every kind, even the celebrated treatment of the injection of tincture of quassia, as recommended by Honingberger, which he offered to sell to the Government for £10,000, and which, I believe, would have been

paid had it succeeded; but it, like most other modes of treatment, only exhibited our ignorance both of the disease and its treatment. After seeing the sad results of the alcoholic stimulant treatment, and of that by opium, I have come to the conclusion that the action of alcohol on the circulation in the brain interferes with the natural power of rallying from the stage of collapse, and that narcotics, if absorbed at all, only tend to deepen and to lengthen into the sleep of death the stage of collapse. Carbonate of ammonia in full and continuous doses, with sulphuric and nitric ether in camphor mixture, administered in the way alcoholic stimulants are given, combined with hot frictions and sinapisms, to restore, if possible, the capillary circulation, have proved, in my experience and practice, the most successful line of treatment, and one which cannot be charged [with inter-

fering with the natural efforts towards recovery; for in India I have seen, on the roadsides leading to Juggernaut, numbers who have recovered, and have started to continue their journey, without either treatment or care of any kind whatever, after having been left by their companions as dead, or to die. Iced drinks, in my opinion, should never be given, for the body is cold enough from the specific action of the cholera-influence on the system; and when thirst, a constant symptom, is complained of, water at the temperature of the air should be given; and, for the violent retching and ineffectual attempts to vomit, copious draughts of tepid water. All the patients who have recovered, when questioned, alluded gratefully to the quenching of the thirst, and it seems hard to suppose that this is not an indication of the natural line of treatment."



TREATMENT OF HABITUAL DRUNKARDS.

THE following is a copy of the Report of the Habitual Drunkards Committee of the British Medical Association, presented at the annual meeting in Cardiff, on July 31st, by Dr. Norman Kerr, chairman of the Committee, and adopted:—

"The Committee desire to report to the Council that, during the past year, there has been no opportunity for bringing forward any measure in Parliament in furtherance of the objects aimed at in the resolution agreed to at the annual meeting in Belfast. It is hoped, however, that, after the coming general election, the way will be clear for an attempt at improved legislation on behalf of the habitual drunkard.

"The Government Inspector of Retreats, in his latest (the fourth) annual report, has at length been able to announce the successful opening of a retreat for inebriates under such conditions as ensure a fair trial of the provisions of the Habitual Drunkards Act. The Dalrymple Home at Rick-

mansworth is carried on by the Homes for Inebriates Association (a philanthropic organisation, no member of which can derive any pecuniary return from the undertaking). This institution is characterised by Dr. Hoffmann as 'a model for similar establishments which may be opened in future.' He also reports to the Home Secretary that the 'success of this retreat is very marked.'

"With the results of two years' work at this home, which is so highly commended by the Government Inspector, your Committee feel that they will be in a better position than before to ask for further and more effectual legislation.

"Your Committee are encouraged, by the first year's operations of the Society for the Study and Cure of Inebriety, to look forward to a more general recognition of the disease aspect of habitual inebriety, and to a more widespread demand for a stronger and a permanent Act.

"Resolutions approving of better

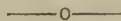
legislation have been passed by the Health Section of the Social Science Association, by the British Medical Temperance Association, and by the Society for the Study and Cure of Inebriety.

"Your Committee respectfully suggest the adoption of a strong resolution by the Association, affirming (1) The need for a relaxation of the stringency of admission into a retreat, by appearance before any one justice instead of before two justices, or even without any such appearance in the first instance; (2) the permanent enactment of an amended Bill in lieu of the present Act, which will expire in between four and five years; (3) the investing of some authority with power to commit habitual drunkards, in

certain cases, to a retreat; (4) the empowering of guardians to detain paupers who are habitual drunkards, and who may have voluntarily entered into a workhouse for recovery from the effects of excessive indulgence, for a period sufficient to effect their reformation and cure.

"In view of the urgent call for public enlightenment and State legislation, your Committee recommend their re-election."

A resolution was adopted, requesting the Council to take such steps as might most effectively influence legislation in the objects demanded. The resolution being seconded, was carried unanimously. The Committee was re-appointed.



CONNECTION OF DISEASE WITH HABITS OF INTEMPERANCE.

OF the desirability of further and more accurate knowledge of the effects of intemperance in the production of diseases there can be no doubt. In the numerous speeches and essays which are now devoted to this subject nothing is more remarkable than the entire absence of detailed information which pervades them, while their number is, in itself, a sufficient indication of the great interest which is felt in the subject. Here, as in many other matters, not only the medical profession, but the State, and the public at large, are anxious and concerned for fresh knowledge. It is, however, from the profession alone that information can be obtained; and this is just one of those questions which cannot be dealt with by statistics compiled in hospitals, but must depend for its solution upon facts furnished by the great bodies of the profession engaged in general practice throughout the country. The circular and schedule which was issued by the Collective Investigation Committee, through the medium of the *Journal*, on May 9th, was a well-considered and praiseworthy attempt to grapple with the difficulties of the subject; and, if due care be used, as doubtless it will, in interpreting any information

that may be received, few fallacies need be feared from such a mode of dealing with the question. The circular proceeded on a sound and simple basis. It included a request to each practitioner into whose hands it was committed to transcribe the counterfoils of his death-certificate book for a given period, and to enter against each case a letter *a*, *b*, *c*, *d*, or *e*, indicating the grade of alcoholic propensity which had been observed in the patients, a blank being left should the reporter feel he had not sufficient information in his possession to make any statement on the question of temperance. We recall the attention of our readers to this schedule, as we consider that evidence obtained by means of it may claim to represent impartial and dispassionate observations upon surer grounds than any method yet adopted. The Collective Investigation Committee are still open to receive replies, and hope to get a great many more before closing the inquiry. It would be eminently desirable that such an inquiry should represent the observations of as wide a body of the profession as possible. The schedule states that all information received will be regarded as strictly confidential.—*British Medical Journal*, July 25.

AN AMERICAN MEDICAL DECLARATION.

THE following Declaration has been signed by a number of physicians in Chicago:—

"Since physicians are the administrators of the laws of dietetics and therapeutics in all civilised countries, and alcohol is at the present time prescribed under these laws, it seems advisable that we as members of the vast and influential body of physicians of America should aid the investigation of the true nature and effect of this agent by giving public expression to our opinions. We therefore state that we believe:—

"1st. That alcohol is a poison.

"2nd. That alcohol is not in any proper sense a food, and should be eliminated from our list of dietetics.

"3rd. That alcohol in any form interferes with the true digestive process. It produces a morbid alcoholic condition of the blood corpuscles which prevents their full absorption of oxygen, checks the rapidity of the blood aeration, and results in an insufficient oxygenated blood supply. The direct action of alcoholised blood is upon the nerve centres and their fibres, causing diminution of their activities, or paralysis, and some degree of indigestion.

4th. That the popular idea that alcohol is a waste arrestor and a food economiser is false. It retards metamorphosis of tissue and so pro-

motes disease, causing pre-eminently paralysis, fatty degeneration, and sclerosis.

"5th. That the nerve centres have a certain chemical affinity for alcohol facilitating its accumulation in their centres and producing there marked degenerative processes.

"6th. That the force-generating theory of alcohol is untenable, having been so proved by the tests of athletes; by travellers, as Livingstone, Bruce, Waterton, Smollett, and Weston; by the soldiers in long exhausting marches in other countries and in America.

"7th. That alcohol is equally injurious in the extremes of heat and cold, as, through its deoxygenation of the blood, it reduces the animal temperature and depresses the vital force.

"8th. That the direct relation of alcohol to insanity is now well established through insane asylum statistics.

"9th. That the deterioration produced by alcohol in the nerve centres has a peculiar tendency to hereditary transmission, causing in the descendants insanity, idiocy, nervous diseases, weakness of will, instability of mind, and depraved appetites.

"10th. That it is the duty of physicians to prescribe alcohol as they prescribe strychnine, as seldom and as sparingly as possible."

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ALCOHOL AND SUICIDE.

In a Social Science treatise, entitled "Suicide, its History, Literature, Jurisprudence, Causation, and Prevention," by Dr. W. Wynn Westcott, deputy coroner for Central Middlesex (H. K. Lewis, 136, Gower Street), we find the following:—

"Without doubt the habitual use of alcohol to excess is a very fertile suicide prompter, and it is found that the stronger the form of alcohol used, the more often crime and suicide are

produced; such are as rare when the light wines are drunk, as they are frequent among spirit drinkers.

"Lunier, Ann. Med. Psychol., 1872, calculating the results in seventy-nine departments, states that the amount of crime in France is in direct proportion to the consumption of alcohol, and so are the rates of lunacy and suicide. As a mean of the estimates of many observers, about one-eighth of all suicides are *directly* caused by

alcohol. It produces suicide in several ways; in a fit of drunkenness, during delirium tremens, by causing mania or melancholia, or by leading to complete imbecility.

"Suicides due to alcoholic poisoning, and alcoholic mind failure, are indeed seen among those who are too rich to require to work at all, or to be regularly at work; but the greatest amount of disease and death due to alcohol exists among the poor, and especially among the poor of our great cities; a very large number of these spend almost the whole of their small earnings in poisonous drinks. The radical remedy for suicide caused by this form of indulgence is doubtless the improvement of the intellectual and moral status, the cultivation of habits of thrift, economy, and foresight. If the humble mechanic could only be led to the conviction of

the paramount necessity of assuring himself against accidents, disease, and old age, and of avoiding the degradation of becoming chargeable during such misfortunes to the means of others who have provided such store, he would neglect the gross indulgences of the sot for the self-esteem and honour arising from a consciousness of having worked while it was yet day, and laid up a store for the evil hours which do so surely come.

"The drink question is one, however, which is now so frequently brought to our notice by our worthy teetotal and temperance friends, that I am sure I need not occupy much space in discussing the amount of self-destruction caused by alcohol, directly or indirectly, through debauchery, loss of money, position, or self-respect."



Notes and Extracts.



INTOXICANTS AND DISEASE.—In Manchester Infirmary in 1875 7s. 2½d. was spent per head on intoxicants, and in 1884 only 9½d.

ALCOHOLISM TREATED BY STRYCHNIA.—Dr. Larder, of Rambervilliers, has for some time treated acute alcoholism with strychnia, observing Dr. Luton's indications. In a case of delirium he administered eight milligrammes of strychnia in twenty-three hours. During the first few days, pills containing five milligrammes were given to the patient every two hours, but with negative results. Then more pills were given in the two hours, also a hypodermic injection. Thus, in less than a day, the patient had swallowed eight milligrammes of strychnia. His condition quickly improved. He slept well, and symptoms of strychnia-poisoning were absent. —*Paris Correspondent of the British Medical Journal.*

MEDICAL TEMPERANCE IN AUSTRALIA.—With temperance principles, hospitals, and institutions so firmly established in our midst, one can hardly understand the opposition of the residents and a section of the profession in Melbourne to the proposal on foot to establish in that city an hospital on temperance principles. Yet the last number of our contemporary the *Australian Medical Journal* asserts that it is so, and that the objectors maintain such firm ground as to compel the upholders of the non-alcoholic treatment of disease to abandon the attempt for the present. Of course, all innovations meet with opposition, and it cannot be expected that the queen city of the New World should be an exception to a general rule. Doubtless the scheme will be carried at no very distant period, and when quietly working as *un fait accompli* it will pass into the natural order of toleration and change. —*Medical Press*, August 26.

CHLORAL ALCOHOLATE.—Sleeping draughts containing chloral hydrate are often prescribed with some alcoholic tincture or “concentrated infusion” as an adjuvant or flavouring agent. Under these circumstances it is usual for the mixture to separate into two layers after standing for some time. Mr. G. F. Markhoe, professor of chemistry in the Massachusetts College of Pharmacy, points out that this is due to the formation of chloral alcoholate in the place of the more soluble hydrate. Anhydrous chloral is a thin oily liquid which combines with water to form a crystalline hydrate, and which also combines with an equivalent of alcohol to form acicular crystals of chloral alcoholate which is much less soluble in water, has a more disagreeable taste, and acts more powerfully upon the system than the hydrate. The presence of the bromides of potassium or of sodium, or ammonium, while it does not appear to facilitate this decomposition, adds another element of risk; for if the solutions are at all concentrated, the separated chloral alcoholate rises to the surface of the liquid, and an overdose of the narcotic, more potent in quality as well as larger in quantity than was intended by the prescriber, may thus be administered to the patient.—*Medical Times and Gazette*, August 29.

SOUR MILK IN ATONIC DYSPEPSIA.—The following letter appeared in the *Lancet* of August 29:—“Sir,—I should like, with your permission, to draw attention to the remedial effects of a very old and well-known fluid. I find that sour milk is a good remedy in many cases of atonic dyspepsia, or, at all events, it is a good adjuvant in the treatment of slow digestion where flatulence and a sensation of cramp in the stomach are prominent symptoms. The good effects of sour milk were casually discovered by me some months ago, and since then I have prescribed it with satisfactory results in many cases of indigestion. If the curd of the milk should disagree with a patient, it should be strained off, and the whey can then be given, or taken a short time, after meals, warm. A gentleman who suffered much from flatulence and

other disagreeable symptoms after meals can now keep himself free from them by drinking, half an hour or so after eating, a tumblerful or half a tumblerful of ordinary cold sour milk, which to him is a most agreeable beverage. I believe the efficacy of sour milk in atonic indigestion is owing in great measure to the lactic acid which it contains, which acid some physiologists say is one of the ingredients of the gastric fluid.—Yours, &c., W. O’Neil, M.D., M.R.C.P. Lond., &c.”

DRINKING AND INSANITY.—In his opening address, at Cardiff, as President of the Psychological Section of the British Medical Association, Dr. David Yellowlees, Superintendent of the Glasgow Royal Lunatic Asylum, said:—“The ruin of brain wrought by intemperance, whether in its sudden and fiercer forms or in the chronic delusional conditions to which they tend, is too familiar. Too familiar, also, is the drink-crave, to gratify which, even for a moment, love and honour and truth and duty are all forgotten. This malady, which some would vainly persuade us is but vulgar vice, is often an inherited neurosis, and then belongs to the second category of causes; but often, too, it is the outcome of habitual indulgence, and thus ranks as a personal cause. A man need not be a drunkard before he can develop insanity or transmit it to his offspring. If he indulge in ‘nips’ throughout the day, or saturate himself with beer, or cannot go to bed without his grog, he is steadily creating constitutional tendencies which will some day develop evil results; and if he crown his sinful folly by giving alcohol to his children, he is preparing for them a double curse. There is no form of foolish indulgence which calls for stronger reprobation than the giving of wine to children. The only folly which approaches it in its evil results is the baneful delusion that most women need alcohol at their monthly periods. Both these habits but manufacture drunkards, and demand our emphatic condemnation.”

ALCOHOL AND VOICE USE.—The *Daily News* reports a conversation between one of their staff and Madame Christine Nilsson, from which we give

the following extract:—"Do medical advisers tyrannise over soprani as to their food?" "Only to the extent of insisting on its being as simple as possible, and eaten at proper times, not late at night. Very little wine is allowed, and experience seems to prove the less the better. Chicken and cutlets and Bordeaux may appear monotonous to you, but it is good diet for a singer." "I thought champagne was good for soprani, and stout for contralti. By the way, did not the great Malibran herself drink porter by the pint?" "I cannot say, for I was not born at that time. But a great deal has been said and sung about song and drink. But you know that what you call or called conviviality means strong drink followed by bad singing. Now, in opera, oratorio, and concert, the music is the first object. Drink, if there is any, is a secondary consideration." "This is new doctrine. I had always heard that oysters and either stout or champagne were the best things to sing upon." "The best and only thing to sing upon is the effect of a sound wholesome meal eaten some hours before, so that one feels the benefit of it without any kind of oppression. To drink a pint of liquid of any kind before singing is madness. How can the lungs do their best work after you have drunk such an enormous draught?"

ELECTIVE ALCOHOLIC FERMENTATION.—Elective alcoholic fermentation is an expression introduced by Dubrunfaut to indicate an alleged power of choice exercised by yeast on a mixture of fermentescible sugars. The question has received renewed attention from M. Bourquelot. It is a fact that in a mixture of levulose and glucose the fermentation does not go on equally in the two sugars. Hitherto the question has remained unsettled whether the sugars are changed successively or simultaneously and at equal rates. M. Bourquelot asserts that not even the purely physico-chemical conditions of the fermentation have been worked out. He has worked at mixtures of maltose with levulose and glucose with levulose.

In a first series of experiments conducted at ordinary temperatures, it was found that these sugars ferment simultaneously, though at unequal rates. Levulose changed more rapidly than maltose, but less rapidly than glucose. But this relation was not maintained, so that if yeast possess an elective faculty, this alters from time to time, a conclusion which appears to be absurd. M. Bourquelot has determined that the so-called elective fermentation is dependent on the temperature, state of dilution of the fluids, and the amount of alcohol formed during the fermentation; that the rate of fermentation depends on the physico-chemical conditions, and not on any selective power of the yeast. Sugar, in order to be converted, must come into direct contact with the protoplasm of the yeast cell, and must therefore traverse the cell wall. The conditions which determine the rate of osmosis of the cell wall are, without question, both physical and chemical. The results thus obtained are in harmony with theoretical considerations. A full account of the investigations may be read in the *Répertoire de Pharmacie* of July.—*Lancet*, July 25, 1885.

ALCOHOLIC PARALYSIS.—Dr. Henry Hun, in a paper on Alcoholic Paralysis, published in the last number of the *American Journal of the Medical Sciences*, April, 1885, contributes in a very careful study a brief but clear history of his subject, in which the labours of Magnus Huss, in 1852, of Lancereaux in 1864, of Dr. Wilks in 1867, of Dr. R. Glynn in 1883, and of Dr. Broadbent in 1884, are ably recognised. Dr. Hun expresses that we are justified in regarding alcoholic paralysis as a special form of disease, with the following symptoms:—After a number of cerebral and gastric disturbances due to the alcoholic poisoning, the symptoms of the disease proper commence with neuralgic pains and paræsthesia in the legs, which gradually extend to the upper extremity, and which are accompanied at first by hyperæsthesia, later by anæsthesia, and in severe cases by retardation of

the conduction of pain. Along with these symptoms appears a muscular weakness which steadily increases to an extreme degree of paralysis, and is accompanied by rapid atrophy and by great sensitiveness of the muscles to pressure and to passive motion. Both the sensory and the motor disturbances are symmetrically distributed, and the paralysis attacks especially the extensor muscles. In addition to these motor and sensory symptoms there is also a decided degree of ataxia. The tendon reflexes are abolished, and vaso-motor symptoms, such as œdema and congestion, are usually present. Symptoms of mental disturbance are always present in the form of loss of memory, and in transient delirium. The lesion is in all probability a degeneration of the peripheral nerve fibres and of the nerve cells in the cerebral cortex, together with a chronic congestion or inflammation of the pia mater. This lesion explains well the symptoms, although it is certainly curious that alcohol should not attack the spinal cord, but only the highest and lowest part of the nervous system, if one may so call the cortex of the brain and the terminal branches of the peripheral nerves.—*The Asclepiad* for July (Longmans, Green & Co.)

CRIMINAL RESPONSIBILITY OF DRUNKARDS.—M. Mottel, at a recent meeting of the Académie de Médecine, treated the important subject of the responsibility of criminal drunkards. Crimes, murders, &c., committed when the perpetrators are under the influence of drink, are much on the increase. Alcoholism at the present time presents unusual characteristics. M. Mottel believes that MM. Dujardin-Beaumetz and Audigé's researches explain this. Manufactured spirits currently sold are more toxic than pure vinous alcohols; they contain empy-

reumatic substances, which exercise a most dangerous influence on the nervous system, which is manifested by sudden fits of frenzy, and savage and brutal impulses. Magistrates are at a loss how to judge a criminal who suddenly commits a crime without any reason or previous intention. If the momentary delirium were the result of a former cerebral lesion of alcoholic origin, the medical expert's evidence would give some clue; but after the momentary influence of these manufactured spirits has passed away, the drunkard is in a normal condition, and no symptoms can be detected suggesting the probability of a return of mad impulses. M. Mottel cited a curious case of the questionable responsibility of a murderer. An Italian, who always worked in compressed air, and was of excessively sober habits, allowed himself to be over-persuaded by his companions, and drank large quantities of alcoholic liquors. About twelve o'clock at night, he was alone in the streets trying to find his home, when suddenly, without the slightest provocation, he drew his knife, and stabbed several people at the corner of a street. One among them died from the wounds inflicted by the Italian. The murderer was with difficulty captured. As soon as he reached the station-house he fell into a profound sleep. The next morning, when questioned, he did not deny the crimes imputed to him, but said, if true, he had no idea how it happened. Working in compressed air induces neuralgia, nervous disturbance, and in some cases produces a general cerebral condition which increases alcoholic susceptibility. The jury disregarded these considerations, but the final judgment took them into consideration, and a less severe sentence was passed than otherwise would have been given.—*Paris Correspondent of the British Medical Journal*, July 11.



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DR. B. W. RICHARDSON, F.R.S.

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THE
MEDICAL TEMPERANCE JOURNAL.
January, 1886.

Original Contributions.

INEBRIETY AND HOMES FOR INEBRIATES.

By CHARLES R. FRANCIS, M.B.

I.—INEBRIETY.

WITH a large section of the general public the idea is very prevalent that an inebriate is, in every case, an abandoned ne'er-do-weel, a profligate scamp, or a dangerous madman. They associate him with possible ebullitions of violence and avoid him accordingly. One of the patients in a Retreat recently told me that once, when standing with one or two others in the grounds near the road, he heard two men (who were passing along the latter and who could see him and his companions) comfort themselves with the assurance that they (the patients) couldn't get out! A Retreat is frequently *called* an asylum; and the unfortunate individual who, entering it (as many do entirely of their own free will) in view to shaking off a pernicious habit, and who therefore deserves our earnest sympathy and encouragement, is either regarded with terror, or as one of those "other men" whom the self-righteous Pharisee congratulates himself that he does not resemble.

I propose, in the present paper (1) to refer to some of the numerous causes of inebriety in order to show that very many of those who have given way to intemperate habits are more frequently the victims of circumstances than of inherent vice; (2) to give an idea of the nature of the Homes established for them; and (3) to suggest one or two ways by which the period of seclusion may be best utilized for their future welfare.

It is presumed that, with certain exceptions, no one deliberately *intends* to drink to excess. But the exceptions do. To them the sense of intoxication is the highest pleasure in life. They live

to drink. The mild beverages, with which others are content, are to them as nought. With such liquor they get, in the facetious language of *Punch*, "no for'arder"! Strong drink alone satisfies them. These are veritable sots—genuine and unmitigated drunkards—many of whom do indeed become, when inflamed by alcohol, temporary madmen. But they are by no means typical of the class; and there was a time when even they did not care for the drink by which they are now enslaved. The customs of the day, their (in many cases) unhappy circumstances, and the temptations which on every side surrounded them, have combined to develop a crave that has grown with their growth, and to which a place has been assigned, in the nomenclature of disease, under the heading of dipsomania.

A confirmed tendency to drink to excess, however developed, is as much a disease as is neuralgia or any other—so-called—functional disorder of the nervous system—to be eradicated only by total abstinence from every form of intoxicating liquor. In such cases, especially if the indulgence has been continued into advanced life, recovery would seem to be, from a physical point of view, almost impossible; more especially if the tendency be inherited. In many cases the inheritance may not be so definitely pronounced, but a sensitive and excitable nervous temperament may have been transmitted,—a temperament that is peculiarly susceptible of the toxic effects of *all* poisons, to which that of alcohol is no exception. One of this class may say, "I am never so well as when I am drinking in moderation, but then I CAN'T drink in moderation." Prolonged residence in a Retreat may prove to such an one that not only *can* he do without alcohol, but that he is much better without it, though he will hardly confess this himself. He prefers to be deluded with the belief that his constitution *naturally* (but now more than ever after a career of drinking) needs the so-thought stimulant. And he is secretly longing to enjoy, careless of consequences, the exhilarating draught. He may even escape from the Retreat in which his friends have placed him, and, being without money, pawn his watch, or shirt-pin, or sleeve-links—anything, in fact, to procure it. Or, out of consideration for his friends who are maintaining him in the Retreat, he may refrain from this, and jog moodily on, till, with efflux of time, he is once more free. Then, the (to him) supreme moment having arrived, he will begin to drink *moderately*, perhaps urged to such moderation by his injudicious though well-meaning friends, and, as a matter of course, relapse into his former state, which, as experience has too frequently proved, is worse than the first. The unhappy victim expresses his conviction that reformation is impossible. He wishes his friends would take no further trouble about him, but, recognising his dipsomaniac pro-

clivities, let him drink himself to death. Such an one is deeply to be commiserated. His case should elicit our most cordial and active sympathy; for there are few sights so deplorable as that of a human being yielding, Mohammedan-like, to his presumed fate, burying in merely sensual indulgence the noble faculties with which his Maker has endowed him, and, renouncing the high hopes and aspirations to which he may, under certain conditions, lay claim, thus sign, as it were, his own death-warrant, and launch himself into an unknown eternity. It is deeply to be regretted that, in very many cases, a man's worst foes are those of his own household. He is supposed, on being discharged from a Retreat, to be cured, and to be therefore now able to drink moderately *like other people*. He is invited accordingly to take his glass of wine or beer, in the expectation that he will be content with this modicum of intoxicating liquor. How many can stand the test? Of those who have required the seclusion of a Retreat a third perhaps may be able, but the remainder will inevitably again drink to excess. They cannot help it. "Total abstinence" should be their future motto; and, if their friends really wish to see the reformation, begun—perforce—in the Home, continued through life, they themselves should become total abstainers, and banish alcoholic beverages from their tables.

Apart from the mere sensual drunkard who has taken, so to speak, kindly to the drink, there are many who naturally have a great horror of it, and who are surprised and distressed to find how gradual and easy has been the *descensus Averni*. Many of these would gladly avail themselves of any opportunities to escape from their thralldom; and for such, therefore, the shelter of a Retreat is an invaluable boon.

It would be impossible, within the limits of this paper, to do more than allude to the various causes of inebriety. One becomes addicted to stimulants—I use the term in its conventional sense—from sheer nervousness. His temperament is nervous. A shrewd and observant man, quick at repartee, often saying things from very nervousness that he would rather have left unsaid, with a keen sense of lively humour, and altogether an instructive and amusing companion. His movements are quick and somewhat desultory. Anything that requires a prolonged sitting is irksome to him. Although, it may be, sincerely religious and thoroughly enjoying the services of his church or chapel, he prefers to have a seat near the door of the building, that he may be able to leave if he should feel a nervous fit coming over him. Dinner, even amongst his own family, is sometimes trying to him. He does not mind breakfast, or tea, or supper; but dinner is a meal of "courses," and the chances are that, before it is

over, he will disappear, retiring with the joint or on the advent of the pudding. An observer will occasionally see beads of perspiration breaking out on his forehead, even before the meal, the mere prospect of which has, as the hour for it approached, quite unhinged him. The non-professional man cannot understand such cases. He believes, not unnaturally, that the individual gives way; that it is all nonsense; and that he ought to fight against it. But this is not the way to overcome his timidity. Such a man resembles a shying horse, and requires the same treatment—encouragement. It is not surprising that, if left to his own devices, he should resort to a “pick-me-up” to enable him to face his imaginary troubles. The effect of alcohol in such a case is a good illustration of its mode of action. It seems to soothe (actually *paralyzes*) the tremulous nerves, and the fancied difficulty is no longer perceived. Like the man who, when in his sober senses, would be very unwilling to jump over a wide ditch, but who would not hesitate to do so after swallowing a glass of brandy. He would then go over like, in his own estimation, a bird, but, in truth, more nearly resembling a fool. So treacherous a remedy as alcohol—an apparent “God-send” but really *devil-sent*—is the worst thing the nervous man could take. Paralyzing the nervous system it depresses it, and thus makes it weaker and more irritable than before. Hydropathy in a good climate will, *in time*, do more for these cases, physically, than any other mode of treatment. The first strengthens nerves, whilst it soothes them; the second must be free from damp, and bracing; and, as nervous temperaments are frequently hereditary, thus rendering the recovery more tardy than it otherwise might be, the more of the last that can be devoted to it the better.

A word about smoking, and other modes of soothing the nervous system, to which the victims of indulgence in alcohol frequently resort. Readers of De Quincey’s “Confessions of an Opium Eater,” will remember the author’s description of the sensations in his stomach after taking food when he had given up the habit. So extremely distressing were they that he at first thought there was organic disease; and, in this belief, he was willing to have the organ examined, for the benefit of medical science, after his death. He subsequently, however, came to the correct conclusion that what he felt was only the process of digestion, the nerves connected with which, after so long a period of unnatural torpor, being now unusually sensitive and irritable. This is the condition of the confirmed alcoholic for some time after he has left off the paralyzing alcohol. He flies to tobacco as a substitute and smokes all day long. His sleep, too, being often fitful or disturbed, or altogether absent the first half of the night, he asks for sleeping draughts. Each case must, of course, be treated on its own

merits; but it may be said, generally, that the substitution of one narcotic (though it be milder) for another, especially on so large a scale, cannot be commended. Tobacco, in moderation, may not be injurious, but the less of it the better. So with other narcotics. Total and prolonged abstinence, with useful occupation and exercise in a good climate, will do more towards restoring the equilibrium of the nervous system than any artificial remedies.

Hypochondriasis is a not uncommon cause of men seeking a friend in alcohol. Those only, who have experienced the mental depression induced by this diseased condition of the nervous system, can appreciate its horrors. It is something more than a "fit of the blues," to which we are all liable in gloomy weather, or in consequence of something wrong with the stomach or liver. There is often *nothing* tangible, and yet the poor sufferer, waking up every morning with either a weight on the top of his head, a fluttering at his heart, or a sense of sinking or "impression" in his stomach, is in a constant state of apprehension, it may be of some impending disease or danger, or even of death itself. His body is sound enough, but his mind is off its balance. Alcohol, too often resorted to by the patient, so far from giving permanent relief, is more likely to ultimately intensify the hypochondriacal condition. Drugs are worse than useless, and this is the worst form of them. Hypochondriacs are usually very affectionate, and need occupation. To provide cheerful surroundings and suitable employment (neither of which, however, are always possible) are the two indications of treatment.

A lively and convivial disposition, a generous nature, the excitement of travel and adventure, the unsettling influences of a wandering career, a ready and sufficient income with freedom from early control, the customs of civilization, the absence of any fixed occupation or object in life, of a home and all that makes home lovely and attractive, the sudden and unexpected advent of domestic bereavement or trouble, the so-considered necessity for something to drink, the belief in the value of alcohol as a liquid food—these, combined with the presumed sanction of Scripture and the recommendations of medical men, which have given an authoritative support to the practice, are amongst the numerous causes of the general use of alcohol. Often there is no cause at all: it is taken in very thoughtlessness and for want of something to do! We drink it because we like it, and we hope it does us good.

The medical reasons for having recourse to alcohol are often contradictory and inconsistent. Drunk to strengthen and warm, whereas it enfeebles and chills: to create an appetite and promote digestion, whilst in truth it weakens both: to increase the secretion from the kidney, which, however, it too often

granulates (as it hobnails the liver), thus in either case blocking the circulation and laying the foundation of dropsy: to increase the supply of milk from the breast, to the deterioration of the source from whence the supply is drawn: to stimulate whereas it depresses: to act as an astringent in diarrhœa, and an aperient in the opposite condition, the treatment in either case being unscientific and empirical: to serve as an antiseptic in foul smelling and dangerous atmospheres, with the effect of deadening the sense of smell and concealing the danger--alcohol is regarded as a panacea for every conceivable ill, internal or external, to which the human frame is liable. It is at once the cordial and the nepenthe of society. Nor is its use confined to the requirements of the body. The aid of alcohol is invoked to develop the higher qualities of our mental nature. The poet, the painter, the author, and the orator, have all had recourse to it, and some of the finest works of art have been conceived, the finest pictures painted, and the ablest speeches made under its influence. In truth, there is hardly a reason for which mankind have not found, as they believed, a friend in alcohol.

I do not for a moment wish to maintain that alcohol is altogether useless as a remedial agent. On the contrary, there is no doubt, I think, of its being a very valuable one, in some cases, in the hands of an experienced physician. I am only condemning the indiscriminate use of it by the public. Many persons continue for several years to take it in moderation; but, at last, there comes a moment when, from excess of emotion or to meet an extra mental or physical strain, they draw too largely upon their ally, who then shows himself in his true colours and enfolds them in his dire embrace. The drink crave becomes developed, and the supposed friend is found to be a tyrannical master. Such victims of intemperance are surely more to be sympathized with than scorned. In all good faith they have taken to their bosoms a viper that has turned and stung them. These credulous persons are not vicious, nor are they to be stigmatized as reprobates, ne'er-do-wells, or madmen. Many of them are men of a high tone of mind, moral as well as intellectual, and possess some of the noblest attributes of human nature. They are often men of culture, with refined tastes and lofty aims; and their society is agreeable and instructive. Under the influence of intoxicating drink the finest characters become, for the time, completely transformed. Not only are defects displayed which are habitually kept in subjection by the will, but features and moods appear which are altogether foreign to the natural man; and uncontrolled liberty is given to the sentiments, emotions, and passions. In a word, the higher faculties are submerged in a bacchanalian maelström. One man, ordinarily

quiet and retiring, becomes extravagantly cheerful and facetious: another, naturally timorous and shy with the fair sex, develops into a gay Lothario, amatory beyond decorum: a third, usually silent and reserved, grows loquacious and noisy: a fourth, chatty and sociable when sober, is now taciturn and morose: a fifth, acquiescent and amiable by nature, waxes argumentative and quarrelsome: a sixth, normally mild and loving, is converted into an infuriated and murdering demon. The most deplorable effect, perhaps, of indulgence in alcohol is where woman, intended to be the helpmeet of man and to lead him to heaven, apparently strives to emulate the example of her prototype Xantippe and to drive him in the opposite direction.

It may to some seem hard that man should not be allowed to use that, which he has by his ingenuity discovered, to gladden his heart, and add to the geniality of social intercourse. Man was born, it is urged, for social happiness. Why not enjoy that which augments it? To abstain is asceticism. Again, when fatigued at the close of a day of hard work, why not take what refreshes and removes the fatigue? It is not necessary to enter in detail into the pros and cons as to the use and abuse of alcohol, and the superior value of articles that may be substituted for it. It is enough to state here that it is not a necessity, but a useless and dangerous luxury; a mocker, and the certain cause of ruin to millions of our fellow-creatures: and that, on every account—for the sake of our own health and prospects in life and for the amelioration of the whole human race—the more we discourage the use of intoxicating beverages, the better shall we discharge our duty to society as physiologists, philanthropists, and, above all, as Christian legislators. If men had been content to drink fermented liquors of the strength and in the moderation known in some parts of the Continent, the need of any anti-alcoholic movement would never have been felt. The work of temperance reformers, however, has illustrated the truth of the saying that “when things are at their worst they mend.” The enormous annual consumption of intoxicating liquor of great and unnatural strength, very much induced by an unnecessarily plentiful supply, has brought about such a vast amount of national degradation, poverty, and crime, that men from all grades of society have banded themselves together to try and induce the community at large—themselves setting the example—to abstain from such beverages altogether. And they have, to a great extent, succeeded. Abstainers, who but a few years ago were estimated by hundreds, may now be counted by millions. The great fact, announced though hardly credited in the first half of the century but now widely accepted in the second, has been learned,—that total abstinence from these beverages insures better health

than even the moderate use of them. In alcohol, *as such*, judiciously employed, there can, of course, be no harm, but as an intoxicating agent it should be religiously avoided; for, deadening as it does the best instincts of our nature and developing the worst, it has richly earned its now notorious title of the "devil in solution."

II.—HOMES FOR INEBRIATES.

The *name* of a Home is a matter of some importance. In advertizing it, its object must necessarily be specified. But the Home itself need not be so distinguished. "Home for Inebriates!" The term, associated in the minds of the English public with individuals of a more or less objectionable or even dangerous character, is also made to include, not only those who, though drinking too much, yet do so in a comparatively minor degree but, those who do not drink at all. The poor sufferer from headache and sleeplessness, for example, in whom (beginning, in order to obtain relief, with occasionally small, afterwards increased to larger and more frequent, doses of some narcotic) the crave for these drugs has at length been developed, is brought within the same category. The patients themselves obviously object to such a sweeping title; and as we should, on every account, endeavour to make their seclusion as agreeable, and as free from sources of irritation, as possible, I venture to think that the term "Retreat" or "Home" is a sufficiently distinctive designation. By the Habitual Drunkards Act of 1879, under which Homes have been licensed for the reception and treatment of the victims of excess, the Legislature has recognised that these unfortunate individuals are not necessarily lunatics. The Act of Parliament, passed in 1879 for ten years, is intended to test the value of these institutions; several of which, indeed, existed before. There are now six *licensed* Homes for Inebriates. Patients of both sexes are received at three of the Homes; but at Shot Hill House, Twickenham, and at the Dalrymple Home, Rickmansworth, Herts, only males, whilst at Colman Hill House, Halesowen, Worcestershire, only females, are admitted. The superintendents are the licensees, who are alone responsible to the Government for the correct working of the Homes under their care. It may here be observed, *en passant*, that no provision is made for a deputy; which is to be regretted, as the Licensee can never take a holiday, except *sub rosa*, which is not desirable. The difference between a Government-licensed and a private Home is this. A patient, before entering the former, must address a formal application for admission to the Licensee of the Home which he selects,—undertaking, at the same time, to remain for a certain period—from three to twelve months—and to conform to the regulations in

force in it. This application must be signed in the presence of two justices of the peace, who are to state that they have satisfied themselves that the applicant is an habitual drunkard within the meaning of the Act, and that he appears perfectly to understand his position. Further, two friends are to solemnly and sincerely declare before a magistrate or Commissioner, that the individual *is* an habitual drunkard within the meaning of the Act; and that he is, on that account, incapable of managing himself and his affairs. This is termed the Statutory Declaration. The applicant is then admitted. The private patient, on the other hand, simply addresses a letter to the Licensee requesting to be admitted, promising to comply with the regulations in force, and acknowledging (in the event of his committing a breach of discipline) the power of the former to expel him, without any notice, from the Home. This letter is signed in the presence of the person, or persons, who are responsible for the payments. It not unfrequently happens that both classes are admitted into the same Home;—the one legally bound, and liable, if refractory, to the infliction of certain penalties (principally fines); the other amenable only to the regulations of the Home, the infringement of which may lead to their expulsion from it, but to nothing more. The advantages of the Act lie in the fact of those, who are not sure of their own stability, being able to encompass themselves with restrictions of a character that would render infringements of discipline less likely than if they were only private patients: and the Government provides an inspector—very properly a medical man—who, it is intended, will frequently and unexpectedly visit the Retreats, carefully examine the sanitary arrangements, and, making himself accessible to the patients, give them every facility for communicating with him. It is understood that these inspections will, on each occasion, be searching and thorough. The publicity, however, attendant upon an application for admission into a licensed Retreat, is naturally, and especially in the case of ladies, very deterring. Neither is it always easy to find, on the same day, two justices of the peace, before whom (sitting together) an application could be made. One should be quite enough, if judicial intervention be considered essential. But medical evidence as to the seclusion being necessary ought to be sufficient. It is very undesirable, for obvious reasons, that both classes should live together under the same roof.

A Retreat is intended to be an attractive spot. A commodious house, with all modern hygienic appliances and surroundings, library, billiard-room, concert-room (suitable also for dramatic entertainments), smoking-room, lawn tennis court, garden (stocked with fruit and flowers), a lake, or running stream, the whole spread over several well-wooded acres, constitutes a scene

as picturesque and charming as that which drew from the poet the words, "If there's peace to be found in the world, it is here, it is here."

In selecting a site the nature of the *climate* should be carefully considered. The nerves of the inebriate require bracing, and a damp locality should, therefore, be avoided. Water adds, of course, to the beauty of the scenery, but it adds also moisture to the air. A quick flowing stream may be better in this respect than a stagnant lake. But both (the former especially and the latter, too if natural) are suggestive of a comparatively low level. The house may be built well above the water, but the influence of the moisture will still be felt; and the contemplation of a sea of mist shrouding the landscape for several days together, during the cold season, is mentally and physically depressing—to say nothing of hypochondriasis and possible rheumatism. The advantages of a lake or river in a Retreat are obvious—boating and bathing in addition to their inherent beauty—but, if they *seriously* affect the healthiness of the locality, these advantages are more than neutralised.

Every provision is usually made for the recreation and amusement of the patients; and each day is, or should be, commenced and ended with prayer; and there are one or more services on Sunday. But, however varied the means for amusement, such a life must, after a time, inevitably pall. The monotony, combined with the inability to leave the premises, becomes exceedingly irksome. With reference, however, to this last remark, the self-imposed restraint *must* be strictly carried out. The Superintendent of the Home stands for the time in *loco parentis*, and the patients themselves, like children of a larger growth, would naturally, in the future, be the first to complain of their parent who did not insist upon the restrictions. If there is to be liberty, why come to a Home, the very object of which is to restrain it? At the Dalrymple Home both systems have been tried. When the Home was first opened the patients had, practically, unlimited liberty; the intention being that they should have free access to the beautiful park and other scenery with which Rickmansworth abounds. No period, however, of seclusion, during which the crave might become diminished or die out, intervened. The patients, naturally enough, preferred the public-houses, and the results may therefore be conceived. Under the present vigorous, yet kind and even affectionate administration, no patient under any pretence whatever is allowed to leave the premises until he has been three months in the Home; and not even then if there be any fear of his abusing the indulgence, or if he have already surreptitiously obtained liquor. Otherwise, he may go to church once on the Sunday, and once

during the week for a walk. Where a patient has proved himself to be trustworthy, he might, I think, be allowed to come and go more freely.

Three months is a very limited time, and the first "outing" of a patient at the end of a period so short must always be attended with risk. My own impression, the result of personal observation, is that seclusion for three months only is altogether useless. To a genuine dipsomaniac it is a period of great distress, and it is very questionable if the crave has very materially subsided at the end of it. My own opinion—and it is one entertained by patients themselves—is that the seclusion should not be for less than six months;—the longer indeed the better. In some cases it might be well for a patient, who was afraid of himself, to accompany another who had presumably recovered.

Referring to the general idea that there is no honour among inebriates, and that they will avail themselves of every possible opportunity of procuring drink, I most emphatically object to this sweeping statement. It is probable that the true dipsomaniac, of short residence in a Home, may not be able to resist. But he who has been led into the habit from social or other causes (and in the absence of an inherited tendency) will not, I venture to affirm, in every case take advantage of his opportunities; nay, further, that he will even successfully face great temptation *if his honour be confided in*. The question of leave must always be a difficult one, each case being dealt with on its own merits; though the more liberty that can be given consistent with the patient's own safety, the better. A system of classification might perhaps be introduced. During the patient's seclusion a change of residence—say for a couple of months at a time—should, if wisely selected, be of great benefit to him; and this is recognized by the Act. The superintendent might organize a system of excursions into the country, associating them with some scientific, or otherwise interesting, object, as archæology, or geology, or botany; or to visit places of note; or simply to enjoy the scenery. In all large communities where it is necessary to introduce rules there must always be some apparent injustice, but this is unavoidable.

A well-ordered Home is an invaluable boon to the victim of intemperance. Should he, in the future after leaving it, again become enslaved, his thoughts naturally revert—it is an unusual application of the term—to his sheltering "Alma Mater." It is his "city of refuge." He may even, when "drunk and incapable," cause himself to be driven to it: and, however embarrassing his arrival in that condition—perhaps late at night—may be to the authorities, the fact is very touching; and clearly demonstrates

how valuable in the eyes of those best able to judge—viz., the patients themselves—such retreats are. At the same time it must be remembered that they are neither hotels, nor hospitals, nor asylums for the insane. It will sometimes happen that an attack of delirium tremens may be developed in a patient after his arrival. Yet persons actually suffering from that complaint are not admissible; and it would never do to make it allowable for a man to come drunk to a Home, sleep off the effects of his debauch, and retire the next morning when sober. Some persons suppose that a man may knock or ring at the door of a Retreat and be at once received, the one passport for his admission being his then state of intoxication! I have known a man bring a drunken friend, and say that his doctor had recommended him to do so, in view to the friend being taken in *for a week or two!* Such cases help to show the need of these shelters for all classes of the community. Whilst several Homes have been established as financial speculations for the rich,—the Dalrymple Home is the only one where the members of the Association, under whose auspices it is conducted, derive no pecuniary advantage from the undertaking, all profits being devoted to the furtherance of the temperance cause—there is actually not one (to the reproach of England be it spoken) for the poor. In America it is not so. There, the State provides Homes for the poor habitual drunkard, who is a possible source of danger to himself and to society. Here, the danger being developed, he is sent to a lunatic asylum. There, the danger is prevented. Here, its development is awaited! Moreover, in America, magistrates have power to confine the habitual drunkard. Here, the permission of the drunkard himself must first be obtained.

It seems almost unnecessary to urge that the superintendent of a Retreat, who for obvious reasons ought to be a medical man, should have had a fair experience of life in the world, and been accustomed to deal with bodies of men. He should himself be a staunch teetotaler; well acquainted with all the reasons—medical, scientific, and social (which as a medical 'abstainer he would be), for abstaining; with his heart in the work; and an earnest advocate of the temperance cause.

The permanent cure of inebriety does not consist in simply confining a man for a certain length of time, cutting off his liquor, and then sending him out to shift for himself. It will often happen that, through the previous intemperance, situations have been lost, friends have become few, and the prospects on leaving the Home are terribly dark and unpromising. Without occupation, friends, or anything in the shape of a home, what more natural than that he should again fly to what will raise him, though only for a time, out of the "Slough of Despond."

In these days of keen competition and over-population it is difficult *for any one* to find occupation. How much more for those who, through their own mistakes, have fallen out of the ranks! Many patients, moreover, are exceedingly sensitive on the subject of their seclusion. They very much object to its being known; and, on emerging from it, would go as far away as possible, and seek for occupation in the remotest corners of the earth, rather than in their former neighbourhood. It is different in America. In a Retreat there the clergyman, or lawyer, or doctor, will hold a levy of his friends, no shame being attached to the position. It is, however, scarcely a *creditable* thing to have given way to intemperance; and I think, therefore, that the English feeling on the subject is preferable. The situation of a man or woman, coming friendless and without prospects out of a Retreat, is a matter for very serious consideration. The medical superintendent may interest himself in trying to find employment for his late patient, but he is single-handed. Until employment is found, it would certainly be well if the former could remain in the retreat.

There is one point of very great importance, affecting the welfare, present and prospective, of patients in a Retreat; but I am not sure if it has received the attention it deserves. In the desire to accommodate as many as possible two are often put into one bedroom; and sometimes, if the room be large, wooden partitions are fixed to admit of its accommodating even more. As the partitions do not exceed eight or ten feet in height, communications between the several occupants is easy enough. The patients may, speaking generally, be divided into two classes: viz., those who really wish to conquer the habit of intemperance, and to become abstainers, and those who do not. These last for the most part have not come in willingly, and they may do infinite harm in a Home. Were it not that it would probably deprive them individually of all hope of reformation, one would be inclined to advocate that they should not be admitted into the same Home with the others; or, if admitted, it should be for longer terms. With plenty of occupation in a well-regulated home, and with prospects of a future happier than the past on leaving it, their hearts having been rightly influenced during their residence—even they may reform. But on no account should patients of both classes occupy the same apartment. To a young man, led by the customs of society into habits from which his better nature shrinks, it may make all the difference if he is shut up at night with one who is always grumbling and longing to get out and have a “burster.” Such an association would naturally, if it did not create disgust, tend to revive the appetite, to extinguish which he has come into the Home. Of course pecuniary considerations must have some

weight. Half a room is cheaper than a whole one, and many cannot afford to pay more than the half price. But, privacy at night being desirable for all, and especially in mixed communities, I would strongly urge that, be it ever so small, each patient should have a separate bedroom.

The question of male and female patients living in the same house, or even in contiguous houses, is one that I would answer emphatically in the negative. I cordially advocate the establishment of Homes for women; but they should be quite distinct from those for men. There is no influence in the world so potent for good or evil as that of women; and, in the case of men who have succumbed to drink, the influence of a good woman is incalculable. Assigning as I do to woman the most exalted place amongst the Creator's works, I would not have man contemplate her in her fallen state. To have men and women in the same house would be to bring the fair sex into contempt. The more, however, that women, who are total abstainers, associate with male patients, the better for the latter. Hence the importance of the superintendent being a married man. There are other obvious reasons also why the Homes should be separate. In a well-managed Retreat the wife knows as much about each inmate as her husband, and in numberless untold ways makes her influence *felt*. By identifying herself with the patients, taking an interest in their affairs present and prospective, encouraging them in their moments of despondency, and inspiring them with hope in the future, she soon becomes recognised as an angel of light in the dwelling; and, in the years to come, her best reward will be in the many blessings invoked upon her head by those whom she has helped back into the paths of health, happiness, and peace. Such a lady now reigns at the Dalrymple Home in Rickmansworth—a Home which the Government Inspector has characterised as a model.

It is frequently and with truth maintained that it is man's social nature, added in some cases to his home discomforts, which so often leads him to the public-house and to other places of public resort, where time, money, and health are sacrificed to the detriment of himself and family. But there are other reasons equally potent, viz., the want, not only of sociable attractions at home but, of home *occupation*. It is much to be regretted that resources of an intellectual nature are not more generally cultivated amongst working men. Various scientific and other institutions have done much to promote mental culture amongst the masses; but, notwithstanding these advantages, there will always be many who are altogether destitute of resources—men who, beyond the work by which they earn their daily bread, are absolutely ignorant. With subjects that raise the tone of the mind, or

even with those that occupy the hands, they are too often quite unacquainted. The reason, in very many cases, is not far to seek. At the end of a day working men—a term of very wide range—are too tired to take up anything requiring mental activity and energy. Upon the *dulce est desipere in loco* principle they are ready enough to be amused, but not to study or work. The prolonged seclusion in a Retreat affords the leisure which was wanting before. There the daily round of recreation must, as before observed, sooner or later, from its very monotony, become irksome. At first the novelty may be pleasing. Some enter into the various kinds of amusements with vigour, and, in course of time, become proficient in games of which they perhaps knew but little before. Or they may learn to swim, or propel a boat. But what of real intellectual value have they learned? They have indeed learned to do without alcohol—a most valuable discovery. But what has been acquired in place of the idle habits which possibly led them to drink—habits which have been rather fostered than otherwise by the life in the Retreat? I do not advocate that a Retreat should be converted into a school, learning being made compulsory, as anything like a task would be nauseous and defeat the object in view. But the opportunity to acquire useful knowledge might be afforded. What subjects would you teach? and who are to be the teachers? will naturally be the first questions. In answer, I would advocate the cultivation of scientific subjects, the instructors being provided—some from the Home itself and others from without. It need scarcely be urged that all such teachers should be abstainers.

Meteorology is a science both useful and interesting. At certain Homes* meteorological instruments might be set up, careful observation of the indication of which would give, in course of years if taken in connection with the healthiness or otherwise of the locality, a series of weather statistics valuable to meteorological science, to the medical profession, and the public. Meteorology is not a difficult science to learn, but it requires extreme accuracy in recording, and punctuality in observing, at meteorological hours. If no one of the patients were scientific enough to undertake the work, the medical superintendent might do so and instruct others. A set of reliable instruments, sufficient for all practical purposes, could be obtained for less than £10.

A carpenter's shop, well supplied with tools of every description, is a most useful adjunct in a Home. Lessons in carpentering might be given twice a week by a practical yet scientific

* The Dalrymple Home is now recognized as one of their stations by the Royal Meteorological Society in London,

carpenter, such as the foremen over large works now-a-days usually are. A shop of this description already exists at the Dalrymple Home, and has been of great service to the two or three who know how to use the tools. That they have used them to good purpose the three canoes on the river, and various other structures in the grounds, abundantly testify. Many a patient would be glad to have the opportunity of acquiring similar skill.

A good non-vibrating astronomical telescope, costing about £10, would afford instruction of surpassing interest; as would also a microscope. One of R. & J. Beck's Star microscopes, with two eye-pieces and two object glasses—1-inch and $\frac{1}{4}$ -inch—price £4 4s., would answer every purpose. Profitable and elevating mental employment would thus be provided for long summer evenings and dreary winter nights; worlds of glorious beauty and creatures of intricate contrivance—all testifying to the infinite skill and bounteous beneficence of the Almighty, and of which, invisible as they mostly are to the naked eye, few can have any clear conception—being thus brought within the sphere of vision of the enthralled spectator. A *course* of instruction would not be necessary; but Guillemain's "The Heavens," an illustrated hand-book of popular astronomy, edited by Norman Lockyer, and revised by Richard Proctor, with Dunkin's "Midnight Sky," and Carpenter's "The Microscope and its Revelations," would be valuable books of reference—teacher and pupils thus becoming pleasantly familiarized with the wonderful works of Creation.

Photography is an art well worth acquiring by all who have leisure. More or less useful to everyone, it is especially so to those who are likely to travel; and there is no difficulty in learning it. The dry process, now very generally adopted, makes it so much less *messy*, too, than it used to be. A portable photographic apparatus, including lens, chemicals, and all other essentials, may be procured for a very few guineas. The pictures produced need not be larger than what may be taken on $8\frac{1}{2}$ -inch by $6\frac{1}{2}$ -inch plates. In buying an apparatus the vendor should be requested to take a picture before the purchaser; and it will be hard if, with this advantage, reading some simple practical book on the subject, as Lancaster's "How to be a Successful Amateur Photographer" (price 6d.), and personal manipulation afterwards, the latter cannot in due course master the art. This is the plan that I pursued myself, and I have now in my possession upwards of 200 negatives of landscapes and groups taken during my service in India, and elsewhere.

A piano might, as at the Dalrymple Home, be placed in a building—*there* it is, appropriately enough, in the concert-room—apart from the house. Patients who are musical will naturally

make full use of it ; and it is desirable that those who have a taste for music, and who are but little acquainted with its principles and practice, should enjoy an opportunity of cultivating both. There are others who know enough to render their performance somewhat monotonous and dreary. Instructions for these would be an individual, as well as a general, boon. A taste for drawing or painting might, similarly, be fostered,—every encouragement being given to sketching on the premises, as well as, in the case of those who would not be likely to abuse the liberty, in the neighbourhood.

A printing-press would afford, if the use of it were wisely supervised, a fund of useful knowledge and pleasant amusement. A local journal, if carefully edited—it might be called the *Cold Water Gazette*—would give continuous occupation to contributors who, according to their tastes and turn of mind, could supply articles of more than ephemeral interest. Illustrations would add greatly to its value. Personal experiences, in the shape of travel and adventure, together with views of things in general, would always be attractive. A good library would, in this connection, be of great utility. All personalities, likely to give offence, should be rigorously excluded. Such a journal might, in course of time, become a valuable and agreeable record of the period.

I do not advocate the delivery of general addresses on Temperance. The patients have already, unhappily, had but too intimate an acquaintance with the moral and, it may be, physical effects of over-indulgence ; and anything in the shape of a *lecture*, or *exhortation*, on that part of the subject, would be quite out of place. But a few lectures on the chemistry of alcohol, and of its physiological action on matter, and on the vegetable and animal kingdom, would be eminently instructive. The public for the most part look upon alcohol as a pleasant exhilarating *stimulant*, which, however, will in the long run, if indulged in too freely, weaken the digestion and shatter the nerves,—even to the extent, in some cases, of causing delirium tremens. But, of its chemical composition, of its saccharine origin, of its identity in all fermented liquors, of its greed for moisture and the consequent desiccation of structures upon whose elasticity nutrition largely depends, of its utter inutility as a food, of its cold-producing character, of its paralyzing action on blood-vessels and nerves,—of, in fact, its generally deleterious influence, even in moderate doses, upon every structure in the body—they know little or nothing. A few lectures annually by Mr. Frank Cheshire, such as he has been giving during the past few years, on behalf of the National Temperance League, to schools and other institutions, and a few by Dr. B. W. Richardson—an abridg-

ment of his exhaustive Cantor Lectures—would do much to dispel the great ignorance which at present prevails on the subject of alcohol. Not only would such lectures be of value in the Home itself, but each inmate, on leaving it, would become a centre of information to others. All the lectures should be illustrated by diagrams and experiments. The admirable and learned lecture on Wine, which Dr. Norman Kerr delivered before the Homiletical Society in London, would be a valuable exponent as to the real meaning of the *word* and the *thing*—wine.

A well-stocked, well-arranged, and systematically-governed library is a great desideratum. It should, if possible, be distinct from a room for merely looking over the newspaper and smoking, and be reserved for reading and study.

No Home can be complete, any more than other professedly Christian communities, without religion. Daily prayers and Sunday services are external evidences of belief in, and reverence for, Jehovah: and many will contend that this is enough. But I venture to say that, if our belief is to be more than a mere periodical observance of a *form*; if, as intended, our religion should show itself in our daily life, something more is required. Human nature needs, under all circumstances, sympathy and encouragement, and the more especially when the heart is oppressed with the weight of some calamity. To many of the patients in a Home the occasional advent of a minister of religion would be a great comfort. But he must be something better than a mere perfunctory parson. From the nature of the case the patients, generally, cannot go to church. It would be well, therefore, if the service could be conducted by an earnest clergyman, who would look upon visits to the Home as not the least important part of his duties. I would advocate the visits also of nonconforming ministers, if there were any nonconforming inmates. Words of consolation and hope, if wisely spoken by the messengers of mercy and peace from on high, would fall upon many a weary heart like the refreshing dew from Heaven; and, whilst giving comfort and encouragement during the patient's sojourn here, would, under providence, help towards reformation of life, on leaving the Home, hereafter.



DIETETIC USE OF ALCOHOL.—In noticing Dr. Dawson Burns' "very effective answer to Lord Bramwell's foolish plea for drink," the *Birmingham Medical Review* for December says:—"We have no objection to the dietetic use of alcohol, but the practice of taking alcohol apart from meals is a vice which, if not repressible by law, certainly deserves no defence from our lawgivers."

DR. ROBERTS ON ALCOHOL AND DIGESTION.

THE experiments on digestion to which Dr. Roberts referred at the meeting of the British Medical Association have now been published,* and form an interesting addition to our knowledge on the subject. The experiments were made with a view of discovering the influence of various beverages, both alcoholic and non-alcoholic, upon the three digestive processes, namely salivary digestion, peptic digestion, and pancreatic digestion.

In the case of salivary digestion the method employed was that of discovering the length of time required to convert into sugar a standard solution of starch by a similar quantity of saliva in the presence of various liquids. It was found that proof spirit did not delay salivary digestion unless more than 20 *per cent.* were present in the mixture. French brandy and Scotch whisky retarded the action when more than 5 *per cent.* was present. The greater influence of these beverages he attributes partly to the volatile ethers and oils, and in the case of brandy to a trace of tannin.

It is worthy of note that no form of alcoholic liquor improves salivary digestion. The most that can be said is that in small quantities there is no apparent retardation outside the body. But Dr. Roberts seems to be anxious to say a good word for alcoholic liquors if he possibly can. Obligated to admit that alcohol does not accelerate the process of salivary digestion, he falls back on the assertion that it does, after all, "promote it by causing an increased flow of saliva." This theory he bases on the fact that "a teaspoonful of brandy or whisky, introduced into the mouth, can be perceived at once to cause a gush of saliva." True; but the question is, Do whisky and brandy (diluted, as usually taken) cause a larger flow of saliva than other sapid substances? Experiment proves that they do not, and therefore their special claim to improve salivary digestion falls to the ground. But if they actually did cause an increase in the quantity of saliva this would be a substantial argument against their common use. For in the healthy body we may be perfectly sure that the quantity of saliva secreted is quite sufficient for the digestion of all the starchy food which ought to be taken. If the quantity is increased by the influence of brandy the excess will be wasted. On the other hand, if the increased quantity of saliva finds work to do it must be because too much starch has been taken, and the quantity ought to be reduced.

There is, therefore, no proof whatever that alcoholic liquors

* "Lectures on Dietetics and Dyspepsia." By William Roberts, M.D., F.R.S. London: Smith, Elder & Co.

are desirable for salivary digestion, and a strong presumption that they are more or less injurious.

It may be observed that wines were shown to be also useless at the best, and injurious in proportion to their acidity, and the same remark applies to malt liquors.

The effect of tea and coffee, especially that of the former, was shown to be detrimental; but into this subject I need not now enter.

With regard to peptic digestion very similar results were obtained. It was found that no quantity of alcohol, in any mixture, ever increased the rapidity of digestion, and that while 5 *per cent.* of spirits and port, or 10 *per cent.* of hock and claret, did not produce any appreciable effect, more than this slightly retarded the process, and this retardation increased *pari passu* with the increase of the amount present. Sherry hindered digestion even when but 5 *per cent.* was present, and is, therefore, specially injurious. Champagne slightly hastened the process, but this was proved to be due to the escape of carbonic acid gas by effervescence, as aerated waters had the same effect. The bubbles of gas agitated the mixture in the glass vessels containing it, but in the stomach itself it is doubtful whether such an action would be of any advantage.

But Dr. Roberts again abandons the sure ground of experiment. Unable to bless alcohol otherwise, he has the assurance to say, "These experiments, therefore, indicate that ardent spirits, as usually employed dietetically by temperate persons, act as pure stimulants to gastric digestion, causing an increased flow of gastric juice, and stimulating the muscular contractions of the viscus, and so accelerating the speed of the digestive process in the stomach." In a foot-note he adds, "We may assume that alcohol would act in this respect [namely, by causing an increased flow of gastric juice] in the same way as it acts on the salivary secretion."

I am willing to accept conclusions fairly deducible from Dr. Roberts's experiments, but I cannot accept those which are only drawn from Dr. Roberts's imagination. Alcoholic liquors may excite a flow of gastric juice, but what proof is there that they do this more effectually than proper food. If proper food causes a flow of sufficient gastric juice, then the extra action of alcohol (if it exists) will be superfluous, if not noxious. That alcohol, taken with food, increases the muscular contractions or movements of the stomach, is pure imagination. The probability is that it acts in just the opposite way; that by its narcotic action it reduces sensibility (thus sometimes relieving pain) and diminishes reflex action. Dr. Roberts cannot be allowed to beg the question. It may be a very fashionable theory, and very

comforting to those who want some excuse for imbibing alcohol, but it is quite out of place in a scientific lecture.

It need scarcely be added that "the national beverage," beer, gave no better result. It does not assist the chemical process of digestion even in small quantities, and more than 10 *per cent.* does evident harm. Any other action is purely imaginary. The idea which some entertain of its value is due in some degree to the anæsthetic action of the alcohol, as in the case of wines and spirits, by which uneasy sensations, due to dietetic faults, are sometimes relieved.

There are some other points in this book which might be criticised, but they are not such as specially affect the temperance movement. The practice of total abstinence remains secure, founded on a rock, namely, that Nature has provided all things necessary and desirable for healthy digestion, and has provided no alcoholic beverages; and that all narcotics are foreign matters injurious to the human organisation. Therefore, they are to be resolutely and totally avoided.

J. J. RIDGE.



IS ALCOHOL A STIMULANT?

By ROBERT KNAGGS, M.R.C.S.E., *Trinidad.*

THE time has come for the employment of "one-idea'd men" in the destruction of the false character of alcohol as a *stimulant*. So long as it retains that title it will have a respectable claim to figure in social life, and be liable to misapplication as a remedy. And, although alcohol has so long occupied this false position, it appears to me equally assailable from anatomical and physiological grounds.

The action of alcohol, beyond that of a local irritant, which it owes to its affinity for water, appears to be of a two-fold character.

When, in dilution, it is taken into the human stomach, it is absorbed by the capillaries of the mucous membrane, and passes into the venous circulation by the splenic and superior mesenteric veins, and by the portal vein through the liver, whence it reaches the heart, by which it is sent to the lungs, and, returning to the heart, is again driven to all parts of the body. In the blood it damages the corpuscles, retards molecular changes, and interferes with the plasticity of the *liquor sanguinis*.

In the meantime, its narcotic action on the extensive expansions of the terminal branches of both pneumogastric nerves and of branches from the solar plexus takes immediate effect on the

nervous centres, the degree being in direct ratio to the concentration of the poison; and thence its paralysing influence is distributed over the whole body; the functions of organic life, controlled by the plexuses of the ganglionic nervous system being first affected thereby, all involuntary muscular fibre losing its contractile power; hence the normal arterial tension is removed, with the immediate results of exciting abnormal, irregular, and imperfect cardiac action, and impeding the distal capillary circulation.

This is certainly a funny kind of *stimulation*, and many like myself recognise it as pure *narcosis*, and its unvarying phenomena as essentially debilitating, whatever other advantages may seemingly be derived from the use of the drug.

Alcohol is neither a *stimulant* nor a *tonic*: it is, as Dr. Wilks has properly stated, a *narcotic* and *depressant*. When medical men know this fact, their patients and friends will not be long in learning it, and in process of time we may hope to convince the most port-loving divine that the moderate use of intoxicating wine &c., is not necessary to ensure purity of life.



Miscellaneous Communications.



A PHYSIOLOGIST'S VIEW OF TEMPERANCE.*

By JOHN G. MCKENDRICK, M.D., LL.D., F.R.S., F.R.C.P.E., *Professor of Physiology in the University of Glasgow.*

WHILE the main objects of the Evangelical Alliance are the promotion of civil and religious liberty, and the cultivation of Christian fellowship and unity of spirit, it takes a deep interest in all social questions having for their end the general welfare of mankind. This is evidenced by the Council having requested me to introduce the subject of Temperance to this Conference. I highly appreciate the honour; but I feel at the same time a great difficulty in presenting the question in any novel aspect, as it

is to be presumed the great majority of my audience are familiar with all the phases of the controversy, and with all the arguments—religious, moral, political, physiological—that are constantly employed when the question of temperance comes up for discussion. The literature of the subject, in its various aspects, has become of huge proportions, and it is impossible for any one in the short space of time suitable for such an occasion as this to do justice to any one department. The only thing I can do is to view the subject as it presented itself to me personally from the standpoint of a physiologist and physician, in the hope that something

* A Paper read at the Annual Conference of the Evangelical Alliance, held at Glasgow, October 8, 1885.

may be contributed to the discussion of a subject of second importance to none in the whole range of social questions. No one who watches the signs of the times can fail to see that, even in the region of politics, the temperance question is rapidly coming to the front, whilst the principles of the temperance party are steadily leavening all classes of society.

The subject at once divides itself into two aspects—(1) as a matter of personal habit, and (2) as affecting the well-being of the community. It is a private matter upon which each one must form an opinion and act accordingly; and it is a public matter, inasmuch as it is acknowledged on all hands that intemperance is one of the most gigantic evils of the day.

As regards the first question, all are agreed that personal intemperance is ruinous to both soul and body. There is nowadays no doubt—at all events in the upper and middle classes of society—about the habits of the drunkard being ostracised. To become a drunkard is to become disgraced, and leads to the loss of all that a man values. Even the suspicion of intemperate habits is enough to bar a man's advancement, and to shut him out of social circles where otherwise he would be welcomed. The same views, though less pronounced, are rapidly permeating the working classes, and this is certainly one of the most hopeful features of the present time. Many years ago such a state of social opinion did not exist. It was not then considered any disgrace for a man to become frequently intoxicated; indeed, the feeling was rather one of admiration, and jovial habits of this kind were not regarded in former days as incompatible with high social standing, nor even with religious profession. This great change of opinion has been largely owing to the resistless energy of the temperance movement. It is surely a vast gain that the moderate drinker and the total abstainer join hand in hand in denouncing intemperance, and of helping, as far as lies in their power, its unhappy victims.

The question has now come to be one between moderate drinking and

not drinking at all. Here, naturally, the conflict is keen, and a great deal can be said, and has been well said, on both sides. It is significant, however, of what the issue will be, that the question with temperate men is not now one of taking alcoholic liquor of some kind in order to get benefit, or to "do one good," as the saying is, but rather how much may be taken without doing harm. The temperate man does not usually say now, "I take this claret or port wine because it makes me strong, and because I need it for my health;" but he says, "May I not take this glass or two of claret, or port, daily without doing myself any harm? Do you think a little grog at bedtime, or a tumbler of toddy, is really injurious?" Or, "May I not take a few glasses of beer daily without doing mischief?" Such as these are the questions asked, and they indicate (1) that a great change has taken place in scientific opinion as to the habitual use of alcohol as an adjunct to diet; (2) that the moderate drinker has a lurking suspicion that even a small quantity of his favourite beverage is not good for him; and (3) that a man usually takes alcoholic liquors simply because he has acquired a liking for them; he appreciates their taste and flavour, and the feeling of exhilaration they produce, and he believes they promote sociality and good fellowship.

As regards the physiological action of alcohol—a question of very great difficulty, by no means easy to investigate—there has been a great deal of exaggeration and mis-statement, which has prejudiced the legitimate argument of total abstainers in the minds of many thoughtful men. When a man, for example, on a public platform pours some alcohol on a little white of egg in a glass so as to coagulate it, and then states that this is the kind of action alcohol has on the brain, any tyro in physiology knows that he is talking nonsense, and is in his ignorance misleading the public. Again, when it is confidently asserted that the habit of taking a glass or two of wine daily or a glass or two of beer, is necessarily injurious to health, and

will in time produce many kinds of deterioration of the tissues of the body, a statement is made that has not been proved, and is probably incapable of proof. Such a statement does harm to a good cause ; it is not necessary to the main argument of the total abstainer, whilst it leads his opponent to view the rest of his case with suspicion.

The influence of alcohol is of a very subtle character, and the physiological action of various alcoholic drinks, such as wines, beer, or spirits, is still more so, inasmuch as these are mixtures of alcohol with many other substances, each having its own effect on the body, although masked by the simultaneous action of the others. Most of the physiological experiments made on the effect of alcohol have been carried out with alcohol in a tolerably pure condition, as, for example, in the condition of some spirituous liquor, such as pure whisky ; and it is important to recollect this in considering the facts elicited, because in social life alcohol is not usually taken in this pure condition, and therefore the physiological effects will not be precisely the same as indicated by experiment. All alcoholic drinks produce much the same kind of effect on the heart, on the nerves controlling the diameter of the blood-vessels (thus regulating the distribution of blood), on the glands, and on the brain ; but each liquor has its own specific effect, and this is more evident as regards the brain. Thus each kind of alcoholic liquor produces its specific kind of intoxication, from the maudlin sottishness of the beer-drinker, to the maniacal excitement of the man who has taken a large dose of bad spirits. This difference is also observable when the quantity taken is comparatively small, and probably the effects vary much in different individuals. In this way sherry, or spirits of any kind, tend to cause irritability, shortness of memory, slight lapses of memory ; whilst malt liquors and such a wine as port dull all the sensibilities and cause languor and listlessness. This view of the matter is worthy of serious consideration. There can be no doubt that the crimes of a country

are influenced, to some extent, by the kind of drink indulged in. Indulgence in spirits of any kind tends to maniacal outbursts of fury, when awful deeds are done without much premeditation. The sodden beer-drinker is not so easily roused, but when this occurs his crimes are tinged with a persistent brutality in which he mauls his victim long after life is extinct. Indulgence in the lighter beers and in the light wines of the Continent is much less frequently followed by crimes of violence. We are assured on all hands that much of the drink sold to the poor in this country and in America is of a bad description, calculated to produce the worst possible effects. Those who are not prepared to adopt the position of total abstainers have at least a duty in this matter—viz, to secure that if drink is to be sold it shall be of good quality, and thus prevent some of the horrible consequences admitted to follow indulgence in stuff that is worse than any ordinary poison.

The real argument to press on the moderate drinker is not that his indulgence will necessarily do him harm, but that, on the whole, in a state of health, he will get on better without it. That habitual indulgence in even a small amount of alcoholic stimulants is not necessary to health has been abundantly proved. Experience most decidedly shows that the highest health, the highest vigour, and long life, are quite compatible with entire abstinence from these liquids. Whilst I make this statement, I admit that experience does not show at present any increase of sickness, proneness to special diseases, or lessening of duration of life, in many who partake moderately of beer or the weaker wines. All I assert is that such indulgence is not necessary to health. In the case of spirits, however, I agree with the late Dr. Parkes in putting the matter in another light. Experience does not sanction the use of spirits as an adjunct to a healthy diet or in the form of "nips" to sustain the flagging energies. The habitual use of spirits in a state of health is not justifiable under any circumstances or in any climate. After stating many

facts bearing upon this in his great work on "Hygiene," Dr. Parkes thus sums up:—"Looking back to this evidence, it may be asked, Are there any circumstances of the soldier's life in which the issue of spirits is advisable? And if the question at any time lies between the issue of spirits and total abstinence, Which is the better? To me there seems but one answer. If spirits neither give strength to the body nor sustain it against disease, are not protective against cold and wet, and aggravate, rather than mitigate, the effects of heat—if their use, even in moderation, increases crime, injures discipline, and impairs hope and cheerfulness—if the severest trials of war have been not merely borne but most easily borne without them—if there is no evidence that they are protective against malaria or other diseases—then I conceive the medical officer will not be justified in sanctioning their issue under any circumstances" (Parkes' "Hygiene," 2nd edition, p. 250).

Laying aside individual experience and generalisations on the limited field of one's own personal acquaintance, as affording too narrow a basis on which to form an opinion, I think it has been conclusively shown by temperance reformers that when we take large bodies of men there is, on the average, less disease and longer life among total abstainers. Statistics from the army and navy show this; and the experiences of civil life point in the same direction. When total abstainers bind themselves together in friendly societies or life assurance companies, they have a lower rate of sickness and fewer premature deaths than amongst men of the same class who profess to be moderate drinkers. This observation is no doubt open to the fallacy that among "moderate" drinkers there are not a few *secret* drinkers to excess who shorten their lives and increase the death-rate of their class; but as a broad general fact what I have said is true. This indicates that even moderate drinking may produce bodily injuries of which the person may be unconscious, and that during all the years of his life in which

he was drinking moderately he may have been slowly undermining his constitution and hastening the approach of death.

The moderate drinker should consider (1) the general experience of those who once held his position, and (2) the risk he runs. "There were hundreds, nay, thousands, of persons who at one time took alcohol in moderation and held that it was both useful and necessary. For various reasons they have abandoned its use, and find themselves better fitted in every way for the work of life. They are convinced now that the alcohol was doing them harm at the very time they believed it was doing them good. To say the least it is certain there are hundreds of thousands more who would have the same experience if they, too, abandoned the common custom." (Dr. Ridge, *Medical Temperance Journal*, October, 1885, page 4.)

Recently, Dr. Roberts (of Manchester), in an address to the British Medical Association, at Cardiff, a physician whose opinions should be received with much deference and respect, advanced the view that the habitual indulgence in alcoholic stimulants, more especially in this country, was the result of a profound instinct which corresponds to important wants of the human economy; or, in other words, that human beings had been led to use alcohol as an adjunct to diet, because, from climatic and other causes, it was required. This brings us, of course, at once to the difficult question of the origin of drinking alcoholic liquors. My own impression is that primitive man probably took alcohol in some form or other because he found it excited him, and produced feelings of happiness, leading him for a time at least to forget his cares and troubles. It is not likely he took it as an article of food. By and bye alcoholic liquors would be taken at meals, and offered to guests to show hospitality and good feeling. Thus the habit sprang up. Now, if this be so, I am quite willing to admit, that, as Dr. Roberts thinks, there is a "profound instinct" in human nature tending towards the use of alcoholic

liquors; but I would submit that this profound instinct is probably the result of a hereditary transmission, through many generations, of a taste or craving for alcohol. In many sad instances we see this hereditary tendency intensified. Excluding certain sects, who have for centuries been abstainers from alcohol, were not the ancestors of the great masses of our people in the habit of taking alcoholic drinks, of one kind or other, as often as they could procure them? The laws of heredity show us that a habit of this kind is transmitted, and a recognition of this should be an element in judging of the success of all measures of social reform. The habits of an individual may be changed in his lifetime, although even in this case it is not easy to change the habits of a man or woman after they have reached forty years of age; but it takes centuries to modify racial characteristics. The profound instinct, therefore, noticed by Dr. Roberts is no proof that the use of alcoholic liquors is necessary; it may be regarded as only a racial peculiarity, probably existing in some degree in all, and present to a dangerous extent in not a few. A recognition of this more or less developed craving for alcohol is of great importance in all questions of social reform, and Dr. Roberts has done good service in directing attention to it. It is a craving intensified no doubt by special conditions, such as a severe climate, exposure to cold and wet, insufficient food, impure air, overtaxed muscles and nerves and brain, and all those unfavourable circumstances that are the lot, from their cradle to their grave, of thousands of our countrymen.

It has often occurred to me that a man in a perfect state of health is *a priori* more likely to work efficiently—on a higher level, as it were—without the use of alcohol than with it. Our bodily organisation, especially that of the brain, is extremely complicated, and mental health depends on the harmonious interplay of all its parts. Sensation, perception, volition, memory, thinking, are all dependent in some way or other, probably beyond our ken, on the activity of the brain, and

a condition of sound mental health is the co-operation of these faculties in due proportion. Now, the fallacy of regarding alcohol as a stimulant in small doses was pointed out long ago by Dr. Anstie, who showed clearly its real action, viz., that it does not stimulate, but paralyses, and more especially that it paralyses the power of voluntary control. If this power is weakened the imaginative faculties run riot; and ideas, often disordered, sometimes brilliant, troop in confusion into the mind. The senses are blunted so far, at all events, as perception is concerned; the memory loses precision and it becomes evanescent to some extent; and even the powers of thinking are weakened, so that the man, eloquent in his cups, sometimes loses the thread of his argument, and gets into a state of mental confusion. All these phenomena may arise, not from stimulation, but from suppression of function. If this be so, one can understand how even very moderate indulgence to some degree weakens the mind. The man is less efficient. He is never intoxicated; he is never even within sight of intoxication as generally understood, but he is not able to work at his best. The glass of sherry in the forenoon at lunch makes him a little less discriminating and accurate in his judgments; he inadvertently forgets something which he ought to remember: he is handicapping himself in the race of life, and he may be beaten by some one who is his inferior in mental endowments. I have noticed these effects also in working men after they had taken a glass of whisky. They were not the worse for it, as the saying is, and as they themselves thought; but yet they were stupid, forgetful, dazed, slightly incoherent, perhaps a trifle quarrelsome; at all events, not at their best.

I need hardly say that the great danger even of moderate drinking is the risk of the amount required steadily increasing. This is a peculiarity in the physiological action of alcohol, difficult to explain. The effect on the nervous system is in a sense cumulative, inasmuch as larger and larger doses are required to produce the same

effect. Thus a man finds that a glass of sherry, which at one time caused some pleasurable excitement, now has little or no effect; and he takes two glasses and so on, until he can take, without apparent intoxication, a very large amount. The moderate drinker may in this way pass, by almost insensible gradations, into the drunkard. This is a physiological effect, and although the tendency may be successfully resisted, and is successfully resisted by many, still it is too strong for many others. In some cases, owing probably to physical organisation, transmitted from ancestors, the downward tendency is inevitable. For all such the only safe rule is total abstinence. Some natures will inevitably be destroyed on this rock, unless they are wisely and judiciously guided past it. They must be saved from themselves.

As to the use of alcohol in the treatment of disease, none but men of extreme opinions will condemn its use. Its physiological potency indicates that as a medicine it is a valuable gift to humanity. No other active substance in certain circumstances will fill its place. Nothing, for example, will so quickly rouse the energies of a failing heart in an advanced stage of fever, or when a patient is apparently sinking, and in some cases it may be an aid to digestion and other processes. But it is a remedy to be used with caution. It is most likely to act beneficially on those who are not habituated to its use. Hence it is not of much service to the drunkard precisely at the time when he needs it. Medical men will now frankly admit that at one time the medicinal use of alcohol was far too general, and pushed to an undue extent, and its sparing but judicious use is characteristic of modern practice. Still, even the careful physician knows the dangers he runs in prescribing the habitual use of even small doses of alcohol, and he can tell of many cases of secret drinking having originated in this way.

In these remarks I have endeavoured to view the question dispassionately, not as an extreme advocate, but as appealing to thoughtful men and women. I have no time to enter on

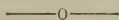
any discussion of the social and political aspects of the question, nor of the moral and religious considerations that ought to influence us in coming to a decision on this subject. You know these as well as I do, and there are many here who could enforce them by the eloquence of personal knowledge and experience. We all know that intemperance is the greatest blot in our social system, that it is the chief cause of all immorality and vice, that it is a prolific parent of various forms of insanity, that the money spent annually on intoxicating drinks is, with an insignificant deduction, absolutely wasted, and that intemperance, with the evils it engenders, is the greatest barrier to the evangelisation of the masses of our population and to their social advancement and well-being. We must therefore ask ourselves what we personally intend to do in this matter. After mature consideration it seems to me that the total abstainer is in the right position, physiologically, for dealing with this problem. He is in a better position of well-being; and he can with greater moral power try to aid his brother who is giving himself up to drink. He can say: "As a matter of liking, I can appreciate a glass of beer or wine with you or anyone, but I deny myself this gratification so that, if possible, I may, by my example, help to save you." He can say: "I do not support local option, which would probably close the public-house to the poor man, whilst I keep my own cellar well stocked with wine and my own beer-barrel full; but I give the whole thing up, and for the good of the community I will try to persuade you and others to shut up nine-tenths, if not all, of the public-houses in your neighbourhood." Nor has the total abstainer the serious difficulty as to whether and when he should begin to allow his boys to drink. The moderate drinker knows the risk of the first glass of wine. In eighty cases out of a hundred, fathers will tell their sons never to drink at all; but if the father takes drink at his table, there is no apparent reason why the son should not take it also when he

comes to a mature age. This is a responsibility to be faced.

Again, I may be allowed to point out that a busy man who, after his day's work is over, spends the time quietly at home, may for years habitually take alcohol in moderate amount without any sense of personal responsibility as to his part in the great question of social reform, and no one has the right to condemn such a life of quiet respectability: but I venture to say that no one can engage in any philanthropic work among the masses of our people without having the question at once forced on his notice. The drink question meets him at every footstep, and he must decide what he personally is to do. Moderate drinking may suit fireside philanthropists, but it will not do for those who go into the thick of the fight.

In conclusion, let me say that, in a matter of this kind, I for one would not attempt to bind any man's con-

science. This is a matter of personal liberty. I merely mention the considerations that have led me to adopt, as a rule of life, the principle of total abstinence. I would not even go the length of advising aged persons who for many years have been accustomed to a small daily amount of stimulants to give up the practice. That might be dangerous. But I would advise every young man and woman throughout the length and breadth of the land never to taste, as a beverage, alcoholic drinks, feeling sure that is the truest and best maxim of personal hygiene. Further, it will gratify me if I have succeeded in interesting this great Conference in a question, reform on which in the way of stopping the habitual use of alcoholic drinks would be a revolution more profound, more far reaching, and more beneficent, than has ever entered into the dreams of statesmen.



CASES ILLUSTRATING THE SYMPTOMS AND TREATMENT OF CHRONIC ALCOHOLISM AS IT AFFECTS THE NERVOUS SYSTEM.

By W. B. HADDEN, M.D. Lond., M.R.C.P.,

Demonstrator of Morbid Anatomy and Medical Registrar to St. Thomas's Hospital, Physician to the Royal Hospital for Children and Women.

CATHERINE T—, aged thirty-two, was admitted into St. Thomas's Hospital, under Dr. Stone, on June 12th, 1885. She was a married woman, but had never been pregnant. She had lived in India, and had suffered from ague there. For three years she had drunk much brandy. Eight months ago she began to have pains in the feet, shooting up in front of the leg. Six months later she commenced to vomit in the morning, but had not brought up blood.

On admission she complained of pains in the soles of the feet; there was hyperæsthesia of both feet; there was no rigidity or wasting of muscles. She could walk fairly, but was inclined to fall on turning. She could stand

with her eyes closed. The patellar tendon reflexes were absent, the plantar reflexes present. There was no bladder or rectal trouble. The spinal column was natural, and not tender. The pupils and optic discs were quite normal. No visceral disease was present. The temperature was 101°. During her stay in the hospital she complained mainly of the pains in the feet. The temperature for the first two days was slightly raised. No special treatment was given. She left the hospital in a fortnight quite well.

Symptoms such as these are common in alcoholic persons. Dr. Wilks called attention to this fact many years ago in the first edition of his "Lectures on Diseases of the Nervous

System." I have found that pains and tenderness in the lower limbs usually precede the onset of paralysis for months. A complaint of such symptoms, especially in women, ought to raise the thought of alcoholism. The prognosis, too, in this stage is very favourable, recovery quickly taking place on the withdrawal of alcohol. I have recently had under observation a case which illustrates the remarkably rapid subsidence of rather severe symptoms when the cause is removed. The woman was a heavy drinker, had lost blood frequently from the stomach and nose, and had probably organic change in her liver. She could not stand when admitted. The muscles were very tender when handled, but there was no wasting. The arms and legs were both affected. The knee-jerks were absent, but the plantar reflexes brisk. There was nystagmus of both eyes. She left the hospital in seventeen days quite cured. The patellar tendon reflexes remained absent. I may remark parenthetically that occasionally the knee-jerk is present in these cases, and ankle-clonus may even be obtained.

M. A. Z—, aged thirty-eight, a married woman, was admitted under Dr. Ord on January 5th, 1885. She had had three children, one of whom was born prematurely. Two died in infancy. The youngest is alive and healthy. The patient's husband, who is a lodging-house keeper, suspected that his wife had been drinking gin to excess for the last three years. During that time she has had morning sickness. For the last two years she has been losing flesh, and of late has emaciated rapidly. Nine weeks before admission she awoke one morning and found she had lost power in her legs. Since then she has suffered from pains in her limbs and has had delusions.

On admission she was found to be an emaciated, cachectic woman. Her mental condition varied. At times she was cheerful and inclined to take a bright view of things generally. Often she was depressed and thought she had committed some great crime. Her memory was very defective. The legs were much wasted and semi-flexed

at the knees; there was almost complete loss of power; she could not extend them, and when an attempt was made to straighten them by traction she cried out with pain. The arms were weak and the muscles tender. The superficial and deep reflexes were absent, except the interscapular. The pupils were equal, and acted to light and accommodation. There was slight lateral nystagmus. She had full control over the bladder and rectum. No enlargement of the liver was detected. The abdominal walls were much retracted, and the aorta could be distinctly felt. A systolic murmur was audible at the right base and in the carotids. There was marked tenderness on pressure over the spine. The urine contained phosphates and a trace of albumen. During her stay in the hospital she complained a good deal of shooting pains in the limbs. The delusions persisted for a few weeks and then disappeared. She gained rapidly in weight and the legs became much plumper. She was able to extend her legs fairly. She complained of unpleasant dreams, but her mental condition generally was much improved. On three occasions there was a slight rise in the evening temperature. The treatment consisted of twenty grains of hypophosphite of lime three times a day, and the daily application of the continuous current.

The next case is that of a gentleman aged thirty-nine, a retired army officer, whom I was asked to see in consultation by Dr. F. M. Mackenzie. It was thought advisable to remove him from his lodgings to St. Thomas's Home; and at Dr. Mackenzie's request I took charge of the case. He was admitted on March 7th, 1885. At the age of nineteen he contracted syphilis, but the disease was not severe, and soon subsided. For some years he had been a heavy drinker, and had suffered from morning vomiting, hæmetamesis and piles. He had had aching and shooting pains in the legs for months, mainly at night, and in June they began to grow weak. The arms became affected in September. He had never had delirium tremens, but for a few weeks previous to admission he had

suffered from delusions and hallucinations.

On admission into St. Thomas's Home he was quite calm and rational, although when I first saw him he was excitable and talkative, but without delusions. His legs were bent at the knees, and any attempt to straighten them caused him to cry out with pain. There was much wasting of all the muscles, but the quadriceps was more affected than the others. He could draw up the limbs a little, but could not straighten them. Sensation was much impaired, and in parts delayed. There was some cutaneous hyperæsthesia of the thighs. There was marked muscular irritability on mechanical stimulation. The tendon and skin reflexes were absent. The

flexors of the toes required sixteen cells of the constant current for their contraction, the quadriceps fourteen cells, and A CC = KCC. The hamstrings reacted to a strong induced current, and the peronei responded feebly to the strongest, but none of the other muscles contracted. In the arms there was marked wasting and weakness of the extensors of the fingers, the first interosseus, and the small muscles of the thumbs. The triceps was weak on the left side, but fairly strong on the right. The supinator longus and biceps on both sides were not affected. The wasting and paralysis were more marked on the left side than on the right. The electrical condition of the muscles of the arms will be seen in the following table:—

	CONSTANT CURRENT.		INDUCED CURRENT.	
	Right.	Left.	Right.	Left.
Small muscles of thumb	16 A C C	14 A C C	Strongest.	o
Interossei	8 „	10 „	Strongest.	o*
Extensors of fingers ...	8 „	8 „	{ Nearly } { normal }	Strong
Flexors of fingers ...	8 „	6 „	Normal	{ Slightly } { deficient }

Both arms were tender when the muscles were handled or drawn upon. Sensation was perfect, although there had been before admission very marked anæsthesia. On each palm there was an erythematous redness, which disappeared momentarily on pressure. There was a little œdema about the ankles. Slight nystagmus was present on looking to the extreme right and left. He had perfect control over his bladder and rectum. Sexual desire and power were not affected. The liver could be felt below the ribs; otherwise there was no sign of visceral disease. I ordered the constant current to be applied to the arms and legs twice daily, for ten minutes each time. At

the same time a mixture containing ten grains of iodide of potassium and ten grains of tartrate of iron, three times daily, was prescribed. This he took for about six weeks up to the beginning of May; as there was no reason to suppose it was beneficial, it was then omitted. On March 25th I noted that his grasp was stronger, and that he had written a letter, the first for three months. There was no change in the legs. On May 20th I noted that the hands were much stronger, and the redness on the palms less. The forearms were much plumper, as were also the small muscles of the hands. The legs were less bent, fuller, and not so painful.

* Except the first interosseus, which reacted to strongest.

He could draw them up well, but could only extend them a little. He had no pains, and no anæsthesia. The lower edge of the liver could not be felt. Since admission the bowels had been very costive, and often failed to act even with the strongest purgatives. The continuous current applied to the abdomen was of no service. Copious enemata was of most use, but even this remedy occasionally failed. On theoretical grounds I gave him nuxvomica in a mixture of quinine. The effect was immediate and remarkable. The bowels at once became regularly opened, and continued so, except during a few days when the medicine was omitted. He did not get out of bed until nearly three months after admission. At the present time (July) his legs are only slightly bent, and the muscles barely tender when handled. An attempt to straighten the limbs is resisted, and he complains of pain. The lower limbs are much plumper, the thighs showing an increase of two inches in circumference since admission. He cannot flex or extend the ankles or toes. Sensation is quite normal. The reflexes are still absent; occasionally, when the patellar tendon is tapped, it becomes prominent and remains so for two or three seconds. The grasp of the hands is good, and he can use them well for all ordinary purposes. It is worth nothing that since his illness he has been subject to factitious urticaria; a warm bath, the application of salt water to the skin, and other mechanical stimulants invariably excite it. Before admission the nail came away from one of the great toes without apparent cause.

When I first saw this gentleman I gave a guarded prognosis. I thought his recovery would be partial. His excesses had extended over some years; his limbs were extremely wasted and almost powerless, and the lower edge of the liver was felt some distance below the ribs. I now believe he will in all probability make a good recovery. I base this opinion on the favourable course of the case, as well as on the issue of others which have come under my notice. One in particular I must allude to, since his condition was even

worse than that of the present patient. He had lived in India, where he had drunk steadily for years. Twelve months ago he was carried from the steamer to St. Thomas's Home, delirious and paralysed. He is now walking about with the help only of a stick, and can take fairly long walks. His gait is a little peculiar, and somewhat suggestive of ataxy. In the case first described I withdrew all alcohol at once. No ill effects followed. The patient at first asked now and then for stimulants, but was not importunate. I have since enjoined entire abstinence for the future. The liability to relapse in these cases, even after apparent recovery, is well known, and can only be avoided by strict abstinence. In some of the instances which have fallen under my notice there seemed to be a special aptitude, some idiosyncrasy, which made the patients peculiarly susceptible to small quantities of alcohol.

Julia A—, aged forty-one, was admitted, under Dr. Stone, on Jan. 6th, 1885. At first, no history of alcoholism could be obtained, but later it was found that she had drunk gin to excess for some time, and was easily affected by small quantities. Four months before admission she began to suffer from numbness and shooting pains in the lower limbs, which used to give way under her. Within the last three weeks the arms have become similarly affected.

On admission she was a stout, florid woman, complaining of weakness and pains in her arms and legs. She described sensations of numbness and formication, but there was no anæsthesia. The hands were very feeble, and there were marked tremors on movement. There was loss of power in the legs, but they were not wasted; the character of the gait was not noted. The tendon reflexes were absent. The pupils were equal and active. The urine contained a trace of albumen. The temperature was 99°. The catamenia had been absent nine months. The bowels were confined. She slept badly, partly in consequence of the pains in the limbs. She continued much in the same state until Jan.

13th, when I made the following note: "Has not slept at all for the last two nights. She is constantly delirious. Is suspicious, and has written to her friends, saying that she is about to undergo an operation. She laughs and cries readily." The next day she was so noisy that she had to be removed from the large ward. She was ordered a mixture of bromide of potassium and hydrate of chloral every four hours. For the next few days she was much better, slept fairly, and was only delirious at times. On the evening of Jan. 19th the temperature, which had never risen above 99.6° , and was usually normal, rose to 101° ; the next morning it was 103° . The fever continued for a month; it was of the intermittent type, and subsided slowly. During all this time she remained much in the same condition. Her aspect was like that of a patient suffering from typhoid fever. She was constantly muttering to herself, and at times tried to get out of bed. The tongue was dry, brown, and cracked; the breath extremely offensive; the evacuations were passed under her. She developed signs of bronchitis. There were no spots. The spleen was not enlarged. The stools did not suggest enteric fever. Improvement was slow, and even after the fever had entirely disappeared she was by no means convalescent. On March 13th it was observed that the tendon reflexes were absent on both sides, and that sensation in the legs and on the right side of the abdomen was imperfect. She could move her legs in all directions when in bed, but could not stand without assistance. The grasp of both hands was feeble; she complained of a feeling of numbness in them, and let things drop. There was some loss of sensation. She had gained control over her bladder and rectum. A few days later a further examination showed that the plantar reflexes were brisk, the abdominal and epigastric being absent. There was tenderness of muscles, and they contracted to direct stimulation. All the muscles of the upper extremities were wasted

and feeble, the extensors being more affected than the flexors. This was more evident on the left side. The hands were still tremulous, and there was much difficulty in picking up or holding small objects. She mended slowly, and it was not until June 5th that she was strong enough to leave the hospital. She was then practically well, although the urine, which was albuminous throughout her illness, still remained so. It should be mentioned that the pupils were unequal, the left being the larger. The eyes were examined once by the ophthalmoscope, and the discs found normal.

Three other cases closely resembling the one just described have come under my notice: two proved fatal, and in both cirrhosis of the liver existed. In one there was also acute tuberculosis. I find cirrhosis of the liver and tubercle associated in several of the recorded fatal cases of alcoholic paralysis. The main point of interest in the present case was the fever, which I was inclined to ascribe to the presence of tubercle. The satisfactory termination of the case practically disposed of this assumption which, nevertheless, was not altogether without warrant. Occasional pyrexia in these cases is not unfrequent; but I had never before seen a continued fever such as existed in this patient. During her convalescence another woman was admitted into the same ward, with almost exactly the same symptoms; but with her the fever is only occasional. She seems to be tending towards recovery.

M. G—, aged twenty-two, an actress, was admitted into St. Thomas's Home on August 30th, 1884. For the use of the case I am indebted to Dr. Edmunds, with whom I saw the patient several times. There is good reason to believe she had indulged in alcohol to excess. There was no history of syphilis. About nine months ago she used to sleep badly and dream a great deal. In the daytime she was nervous, and afraid to go out by herself. About this time she began to have fits. She used to scream, fall down, lose her senses, and then sleep. She has bitten her tongue and lips in

the fits. Altogether she has had twelve or fourteen such attacks, at intervals varying from two to six weeks. For a month before admission she had violent vomiting, and, according to her mother, had not slept during this period. Two days before admission she became strange in her manner, had screaming fits, and did not know her friends.

On admission she could not answer when spoken to, and indeed could scarcely articulate. She did not know her friends or take notice of things. Her mind seemed quite a blank. She did not sleep at all the first night, but on the second she slept two hours and a half after two doses of chloral. At this time there were constant choreiform movements of the arms, but not of the face or legs. The latter were very thin and drawn up. The patellar tendon reflexes were absent. She passed her evacuations unconsciously. She spoke occasionally, but did not articulate distinctly. A vesicular eruption, coming out in crops, was observed on the palms and soles. The urine was free from albumen. There was no sign of visceral disease. On September 3rd the eyes were examined, but there was no optic neuritis. Her mental condition had improved. She pronounced her name plainly. She slept well without chloral, but her bowels acted under her during the night. On September 9th the rigidity of the legs was found to be much increased, and there was more wasting. Sensation was much impaired. When lifted out of bed she was quite unable to stand, the legs remaining bent. The arms were still affected by the choreiform movements. A bed sore had formed on the back. She was ordered five grains of iodide of potassium thrice daily. A few days later an electrical examination was made. There was no response of the muscles of both legs with the interrupted current. With the continuous current there was no movement at all of the left leg. On the right side there was only a response with a very strong current, and the contraction was better when changed from a descending to an ascending

than *vice versa*. Rather more than a fortnight after admission her mind had become clearer, and she began to gain flesh. The legs were still drawn up and much adducted, the knees overlapping. She had regained sensation. There was almost complete paralysis. The jerky movements of the arms still persisted. She had now fair control over the sphincters. On October 17th Dr. Edmunds, who had been away for three weeks, noticed a marked improvement in her mental condition. She now began to mend steadily. The rigidity at the knees and the adductor spasm slowly disappeared, movements returned, the muscles became plumper and responded better to electricity, the patellar tendon reflex could be obtained, and her mental state became quite natural. At the present time (July), eleven months after admission, she is walking about with a stick fairly well. She still has some deficiency of movement, mainly of flexion and extension of the foot. There is every hope that she will regain the complete use of her limbs. As regards treatment, galvanism and passive movement were most serviceable. For a time an attempt was made to straighten the limbs by an extension apparatus, but without success. For the first three or four months after admission she was allowed six ounces of wine daily, but it was then deemed prudent to withdraw it. The nature of the fits which occurred before admission is doubtful; possibly they were epileptic, but on this point one cannot speak with certainty. At one time there was a suspicion that the symptoms were hysterical. The choreiform movements of the arms and her mental state lent some colour to this idea. But the atrophy of the limbs, their position in flexion, the electrical reactions, and the formation of a bed sore, pointed to organic change dependent, as we believe, on alcoholic excess.

C. N.—, aged forty-eight, a railway porter, was admitted into St. Thomas's Hospital, under the care of Dr. Stone, on December 8th, 1883. He had had no illness since child-

hood, and had never suffered from syphilis. He had been "on the drink" for several days before admission. During this debauch he had a sudden chill followed in a few hours by stiffness and weakness of all the limbs.

On admission, four days after the onset of the attack, he was very excitable and talkative, but answered quite rationally. He was perspiring profusely. He could flex the knees slightly, but otherwise the lower limbs were quite paralysed. The muscles were flabby, but did not seem wasted. The patellar tendon reflex was absent. There was wasting and paralysis of both arms; the supinator longus, the deltoid and the small muscles of the thumb on each side were most affected; the tendon reflexes were not obtained. Sensation was not impaired in the arms, but it was blunted in the lower limbs and about the umbilicus. The epigastric and abdominal reflexes were good. He had perfect control over his evacuations. There was some bowing of the back in the dorsal region, but no curvature. The internal organs seemed healthy, and the temperature was normal. On December 13th it was noted that the paralysis of the extremities was complete, the tendon reflexes were still absent, the muscles were painful and contracted to direct stimulation, and sensation was good. On the same day he was found to have complete paralysis of the right facial nerve.—14th: He thinks strange things are in the bed. Is drowsy, but very talkative when spoken to. He still continues to sweat profusely. The paralysis of the right side of the face remains the same. Is very deaf on the left side, but hears a watch at eighteen inches with the right ear. The conjunctivæ are injected, and there is some mucopurulent discharge. The pupils are small but sensitive, the optic discs normal, but both external recti are weak. He was ordered a quarter of a grain of extract of belladonna night and morning, and a lotion of sulphate of zinc (two grains to the ounce) to be applied to the eyes.—18th: Sweating less. Has slight loss of control over the rectum. The arms are not

so weak, but the legs still remain powerless. There is a blotchy eruption on the arms. The facial paralysis is less. All the affected muscles show the reaction of degeneration, though to a minor degree.—30th: The sweating has entirely gone. He can now move his arms fairly, and has slight power over the legs. The knee-jerks are absent; the muscles are somewhat tender, but less irritable; the facial paralysis is less. The deafness with the left ear remains complete, and there is now some deafness also on the right side. The conjunctivitis has disappeared. He is still very talkative, and wanders at night. The skin has broken over the sacrum, and there are black sloughs over both heels. He was placed on a water-bed. The following mixture was prescribed: biniodide of mercury, one-sixteenth of a grain; iodide of potassium, ten grains; water to one ounce; to be taken every six hours. The continuous current was ordered, ten cells being used for the arms and fourteen for the legs. He now began to make decided progress. The muscles responded to currents of less strength; the arms and legs became plumper; and on February 28th it was noted that he was able to walk about the ward with the help of a stick. On the evening of March 4th the temperature suddenly rose to 103°. Next morning he was perspiring profusely, and there was swelling, redness, and tenderness of the finger- and toe-joints, and of the knees and ankles. He was ordered the following mixture: carbonate of lithia, ten grains; tincture of colchicum, fifteen minims; peppermint-water to one ounce; to be taken three times a day. On March 7th there was some oedema about the affected joints of the right foot, and they were much less tender. The left wrist and elbow were now inflamed. The sweating still continued. There was no heart affection. The urine passed on the 9th was analysed, and found to be very deficient in uric acid. The attack soon subsided, and his temperature was normal on the 12th. From this time he made uninterrupted progress.

Before he left the hospital on May 28th all his symptoms had passed away, and the patellar tendon reflex was found to be present and equal on both sides. I saw the man a few days ago, fourteen months after leaving the hospital. He remains quite well.

This case bore a striking resemblance to an attack of acute anterior poliomyelitis. The onset was sudden, the muscular wasting rapid, the bladder and rectum unaffected (except once, when there was slight difficulty in controlling the motions), and the bed-sores were of acute formation. The electrical reactions also favoured such a diagnosis. On the other hand, the occurrence of the attack after a debauch, the mental disorder, the blunted sensation, the profuse sweats, the deafness, the facial paralysis, and the joint affection suggested a different explanation to my mind.

The mental condition in this man was such as I had observed before in alcoholic paralysis. It is characterised by excitement and talkativeness, although delusions may be present, as in this patient. The profuse sweatings were due, I think, to vaso-motor disturbance. At any rate, there was no other explanation forthcoming. The weather at the time was cold and windy, so external causes were excluded. It is possible that the joint affection also depended on nerve lesion. The patient had never had a similar attack before, and its gouty nature was by no mean clear. Its occurrence in a case like the present was certainly suggestive. It might be urged with some reason that the facial paralysis was accidental, and due to the usual exciting cause—a draught. This may be so. At the same time it must be remembered that the deafness, which occurred simultaneously, was on the left side, the facial paralysis being on the right. Such a combination—a neuritis of the facial on one side and of the auditory on the other—is more likely to depend on a constitutional than on a local cause. The cranial nerves do not escape in alcoholic paralysis, although Charcot and Feré assert that the facial is never involved.

In one case of alcoholic paralysis I observed hemiatrophy of the tongue, which was found after death to depend on atrophy of the corresponding hypoglossal nerve. There seems no good reason, therefore, for excluding the facial and auditory nerves from the pathology of alcoholic paralysis. The lesion in this case was probably a multiple neuritis. That alcohol does give rise to such a condition is now placed beyond all doubt. Lancereaux, Dreschfeld, Reginald Thompson, and others, have shown that this is so. In a paper about to appear in the *Pathological Society's Transactions* I have given the pathology of two fatal cases. In both the central nervous system was healthy. In one case only were the nerves examined, and in that distinct degenerative changes were discovered.

In conclusion, it is worth while drawing attention to the effects of treatment in alcoholic paralysis. In the first place, the total withdrawal of alcohol should be enforced; and not only so, but future abstinence enjoined; no medium course is allowable in such cases. As regards drugs I have little to say. In one of the above-described cases *nuxvomica* had a decidedly beneficial effect on the obstinate constipation, but its action over the paralysed extremities could not be determined. Iodide of potassium in my experience is useless. Bromide of potassium and hydrate of chloral are serviceable in allaying the mental excitement which is so often present. In the treatment of the paralysis the only trustworthy therapeutic agent is the constant current. Its use may be required for months. Nothing appears more hopeless than some of these cases of alcoholic paralysis, and nothing really is more hopeful, provided only that the treatment by the constant current is persevered in. When organic changes in the viscera are present, such as cirrhosis of the liver, the outlook will be less promising, and a fatal result may be unavoidable. Nevertheless, treatment even in such cases as these is not altogether without avail.—*Lancet*, Oct. 3, 10.

THE FUNGI OF ALCOHOLIC FERMENTATION.*

By NORMAN KERR, M.D., F.L.S.

CONSIDERABLE light has of recent years been thrown upon the life history and the varied forms of the yeast observed in fruit juices during the successive stages of fermentation. If a saccharine fruit, such as the grape, be pressed, the expressed juice, in conditions favourable to fermentation, undergoes the alcoholic fermentation under the influence of different species of yeast belonging to the genus *saccharomyces*.

Yeast, *torula* or *saccharomyces*, is a fungus of the order ascomycetes (*askos*, a bag), the order of fungi richest in variety of forms, whether as regards the mode of vegetation of the thallus, or the relation of the structure and of the polymorphism (many forms) of the spore apparatus.

The order is divided into four families by the structure of the ascospore apparatus. Under one of these families, discomycetes (the family distinguished by the asci being on the exterior of the peritheca), the genus, *saccharomyces*, or yeast, is classed. In this genus the thallus is composed of ovoid cells, more or less elongated, or even spherical, disposed from end to end in the form of branched chaplets. This special shape arises from an alternate dilatation and contraction

in the terminal growth of the filaments and of their branches, each of these beginning by a contraction. The cells, therefore, are slightly adherent, and are very easily separated. The ramification varies with the species, frequent in *Sacch. cerevisiæ* and *Pastorianus*, and rare in *Sacch. apiculatus*.

The cells of *Saccharomyces* multiply in two ways. 1. By gemmation, a bud-like process projecting from the cell wall, and gradually growing in size until it is about as large as the parent cell. This new cell may ultimately either be entirely separated from, or remain attached to, the parent as an independent cell, each cell again giving off a new one by gemmation. 2. By some of the yeast cells, after having attained to a size several times greater than usual, forming within themselves several small cells, which latter achieve their freedom by breaking through the containing membrane of the parent cell. These small cells are described as asci or spores, and the parent cells enclosing them as ascospores. These new cells of endogenous origin are propagated by gemmation when sown in saccharine fluid media.

There are several species of *saccharomyces*, discriminated mainly by their size, and by their physiological action on different fluids containing sugar. The genus is called *saccharomyces*, because it can split up sugar into alcohol and carbonic dioxide, though the different species are not all endowed equally with that power.

The cells are much larger than the largest microocci, each cell being composed of a membrane and contents. These latter are either homogeneous or fine granular protoplasm. In the granular masses there are usually one, two, or more vacuoles.

The study of the different species of alcoholic ferments has, though at times considerable difficulties had to be overcome, been close and profound. Each species has been separated from

* "Pasteur—Memoire sur la Fermentation Alcoolique (Ann. de Chimie et de Physique, lviii., 1860), et Etudes sur la Bière," Paris, 1876. Rees, "Botanische Untersuchungen über die Alkoholgährspilze," Leipzig, 1870. Hansen, "Recherches sur la Physiologie et la Morphologie des Ferments Alcooliques" (Meddelelser, Fra Carlsberg Laboratoriet, 1881. Van Tieghem, "Traite de Botanique," Paris, Fascicule, vii., p. 1065. Klein, "Microorganisms and Disease," Lond., 1884. "Annales Science Naturelles," 6e serie. "Botanique," xvii., 1884. BOUTROUX sur "La Conversation des Ferments Alcooliques dans la Nature." "Biologisches Centralblatt," Band iv., No. 16, 15th October, 1884.

foreign organisms (such as mould and bacteria) with which it has been associated, and from other species of yeast fungi which appeared in the same specimen of fermenting fluid. To eliminate the foreign bacteria and moulds, all that is required is a few successive cultivations in the same fruit juice. To get rid of the mycoderma vini (*Sacch. mycoderma*, the scum on the surface of fermenting wine and beer), which would be unaffected by this procedure, it suffices to sow the yeast of cyder and mycoderma vini (*Sacch. mycoderma*) in a strongly acid medium, when at the first cultivation there is a complete separation. The yeast alone grows in this medium. To make assurance doubly sure, two or three successive cultivations of the yeast may be made in the same medium.

The greatest difficulty lies in isolating the various species of ferments. This may be done (1) By successive cultivations in fruit juice; (2) By prolonged preservation of the mixture of yeast fungi in the fermented liquid; (3) By cultivation in more and more acid media; (4) By the gradual raising of the temperature.

CHARACTERS OF THE DIFFERENT SPECIES.

1. *Macroscopic appearance*.—*Sacch. cerevisiæ* (beer yeast), *Sacch. conglomeratus*, *Sacch. Pastorianus*, do not form a veil on the surface of the fluid, but the two last-named often present on the free surface one or more islets of cells. *Sacch. ellipsoideus* (*Sacch. vini*) produces a membranous veil, wrinkled, without tenacity, and easily dislocated on being shaken. *S. ellipsoid.* and *S. apic.* disturb the must during fermentation.

2. *Microscopic appearance*.—In the active ferments the young cells during the height of multiplication are generally little grouped. When the fermentation has been completed, and the superficial cells are examined, the pellicle cells often develop in their interior round bodies like spores. In *S. conglomeratus* there are little grains more or less free and more or less

numerous. The vacuoles are empty in *S. ellipsoideus* and *S. apiculatus*.

3. *Action of the Yeast on Cane Sugar*.—Certain yeast fungi have the power of causing cane as well as grape sugar to ferment. Others can cause the fermentation of grape sugar only. To the first group, the Inversive, belong *S. cerevisiæ*, *S. conglomeratus*, *S. ellipsoideus*, and *S. Pastorianus*. To the second group, the non-Inversive, belongs *S. apiculatus*.

4. *Resistance to acidity*. The different species of yeast fungi were sown in mixtures of water, grape sugar, and tartaric acid, in which the degrees of acidity were $\frac{1}{2}$, 1, 2, &c., up to 12. All the Inversive ferments were developed in a must with an acidity of 6. Some of the non-Inversive were developed in a liquid of the acidity of 4, but later they finished by setting up fermentation in fluids with an acidity of 5 and 6.

5. *Activity of Development*.—Under the same conditions the different yeast fungi induce fermentation with varying degrees of rapidity. The comparison was made in different acid media. The times of the beginning and the end of fermentation were noted.

6. *Resistance to Temperature*.—When plunged in sealed tubes into a warm water bath, at an increasing temperature, the degree at which each species of yeast fungus was killed was determined by Boutroux. At 52 deg. *S. apic.* was killed; at 56 deg. beer yeast (1), at 59 deg. *S. Pastor.*; at 61 deg. beer yeast; (2) at 62 deg. beer yeast (3), and *S. ellipsoid.*, or vini; at 63 deg. cyder yeast and *S. conglom.*; at 64 deg. beer yeast (4).

7. *Alcoholic Power*.—Every yeast fungus is capable in presence of an excess of sugar, of producing a certain maximum proportion of alcohol, almost constant for each species and different from other species. Beer yeasts 1, 2, 3, and 4, *S. ellipsoid.*, cyder yeast, *S. conglom.*, are among those which have the greatest alcoholic power.

8. *Fermenting Power*.—The weight of alcohol formed during the disappearance of 105 grammes of grape sugar.

PRINCIPAL ALCOHOLIC YEAST FUNGI.

I. (1) *Saccharomyces cerevisiæ* (*torula cerevisiæ*).—This is the fungus met with in the brewing of beer. The full-grown cells have a diameter of from 0.008 m.m. to 0.01 m.m. Boutroux contends that four different species have usually been included under this designation. I may add that more species have really been so ranged, for in this country *S. cerevisiæ* has commonly been described as the yeast fungus in the alcoholic fermentation alike of beer and of wine. The four species described by Boutroux are (1) which forms no agglomeration of cells on the surface of the fluid, and does not sensibly trouble the must during fermentation. When the alcoholic fermentation is ended this species forms a powdery deposit, isolated or in groups of two or three cells. Forms ascospores. The fermentation is rapid and complete. Only with difficulty withstands an acidity superior to 4, but can nevertheless in twelve days induce fermentation in a medium of the acidity of 9; killed at 56 deg.

(2) Has a flaky pellicle and a bottom deposit, which resembles in appearance the precipitated curd of argent chlorid; does not sensibly trouble the must during fermentation. Under the microscope the budding cells have irregular forms, often elongated, and they are disjoined or approach each other without forming chains. In ageing they are re-united, so as to form a mycelium, with many celled branches. Some of the old cells of the superficial deposit contain innumerable little grains; others sometimes one, two, or three large grains. Fermentation rapid and complete. Fermenting power about 49. Resistance feeble to acidities superior to 4; killed at 64 deg.

(3) Macroscopic aspect like 2, but troubles the must freely during fermentation, and does not deposit a curd-like sediment. Microscopic aspect—young cells generally free or in groups of two, irregular in form, often elongated, or pyriform. In ageing, this yeast lengthens out and forms branched chains. Fermentation rapid

and complete. Resists acidity better than (1) or (2). Killed at 62 deg.

(4) Macroscopic aspect almost the same as (3). The fluid not troubled. Microscopic aspect—The young cells isolated, or in groups of two; elongated, not pyriform; generally smaller and more slender than those of (3). The old cells of superficial deposit have yet more irregular forms. Chains with a great number of cells are found. Some cells enclose many little grains. Fermentation complete, but very slow, in the proportion of one month to eight days, or less, of the other yeasts. This characteristic prevents confusion with (2) and (3). In a must of the acidity of 12, incited fermentation in less than four days; killed at 64 deg.

II. SACCHAROMYCES ELLIPSOIDEUS,
OR VINI.

This is the ferment which sets up the alcoholic fermentation of grape juice, and is the true yeast of fermented wine production. Boutroux has observed a slightly differing form in cyder fermentation. Superficially, white flakes form a membrane thick but void of tenacity. This membrane, always growing, folds repeatedly upon itself. The cells are elliptical, not quite so large as those of *Sacch. cerevisiæ*, and produces ascospores. The young cells are generally free, or in groups of two, three, or a little more. The vacuoles empty. The deposit at the bottom presents a greyish powdery bed, surmounted by a layer of white flakes. The superficial layer of a cultivation of about forty days was found composed of round cells; from their pressure on one another assuming polyhedral forms, and generally enclosing a number of small grains. Some cells contain a grain of considerable size (a spore?) The cell membranes are not tenacious and are easily crushed, when many little well-rounded grains float in the liquid. The veil of an older cultivation presents cells almost empty but containing a variable number of grains of different sizes.

Sacch. ellipsoideus provokes rapid and complete fermentation. Resists acidity well, for it induces fermentation in a must with an acidity of 5,

within forty-eight hours; killed at 62 degs. Very common in the air.

III. SACCHAROMYCES APICULATUS.

Found always in the fermentation of ripe grapes and other fruits. The cells are smaller than in any of the other saccharomyces. Forms no veil on the surface, only the foam leaves a ring. Liquid troubled during the fermentation. The deposit at the bottom relatively not extensive, is powdery. The cells, smaller than those of *Sacch. cerev.*, little grouped, have the characteristic shape of citrons. A cultivation of nine months has furnished cells enclosing one or two central balls almost empty. The rest of the cells were hardly visible. Incites rapid fermentation. Does not cause cane sugar to ferment. The fermentive power is hardly equal to that of a yeast of beer. Strongly resists acidity. In an acidity of 12 sets up fermentation in less than four hours; killed at 52 degs. Alcohol producing power, the conditions being equal, one-seventh of that of *Sacch. cerevisiæ*.

IV. SACCHAROMYCES PASTORIANUS (Hansen).

The cells vary in size from 0.002 m.m. to 0.007 m.m. in diameter. Some produce ascospores. Most of the forms of *Sacch. pastor.* are found in wine and cyder fermentation, after the completion of the first alcoholic fermentation. This is the proper ferment of the secondary fermentation of saccharine fluids, and of wine remaining sweet after its principal fermentation. Unable to ferment cane sugar. Very common in the air.

V. CYDER FERMENT.

This fungus plays the chief part in the fermentation of apple juice. Macroscopic aspect—no superficial deposit, or only a little islet in the middle of the surface. After the fermentation is completed a white ring is often observed, but no appearance of a veil. The deposit consists of a layer of white flakes surmounting a deeper greyish powdery layer. The must is a little stirred. Microscopic aspect—The young cells are somewhat like those of *Sacch. ellipsoid.*, or *vini*, but

of more regular form, and more frequently associated in chains. Some cells lengthen out into tubes. Incites rapid and complete fermentation. Resistance to acidity feeble, withstands easily acidities 4, 5, and 6, but with difficulty superior acidities; killed at 63 degs. Distinguished from *Sacch. ellipsoid.* by macroscopic and microscopic aspects, and by resistance to temperature.

VI. SACCHAROMYCES CONGLOMERATUS.

A ferment with round cells which appears in fermented wine and cyder at the end of the alcoholic fermentation. Macroscopic aspect—No pellicle but trailings of white dust, the length of the walls, the bottom deposit quite flaky, the must not troubled during fermentation. Microscopic aspect—Young cells roundish, often gathered together in masses; old cells round, filled with very small grains, a few empty; sets up rapid and complete fermentation; supports badly an acidity of 4; killed at 63 degs.

Saccharomyces mycoderma (*Mycoderma vini*).—These cells are the scum on the surface of fermenting wine, beer, and cabbage. Cells oval, about 0.006 m.m. long and 0.002 m.m. broad, forms ascospores several times as large as the isolated cells. Does not produce alcohol. Forms mycelium-like growth by budding from the elongation of the cells in acid liquid. The latter, similar to *oidium albicans*, the fungus of the thrush, so often seen on the mucous membrane of the mouth and throat in infants, and in great prostration in adults. The cells are round, or cylinder-like; the round from 0.003 m.m. to 0.005 m.m. in diameter, the cylindrical as long as 0.03 m.m. to 0.05 m.m. Forms ascospores.

Saccharomyces Exiguus.—Appears in the secondary fermentation of beer, etc.

ALCOHOL FROM OTHER SOURCES.*

The alcoholic fermentation can be set up by micro-organisms foreign to

* Basil: "Flora," 1857. Sayon, "de la fermentation alcoolique avec le *Mucor circinelloides*" (Ann. de Chimie et de Physique, 5e Serie, xiv., 1873).

the genus *sacharomyces*. In the absence of free oxygen the thallus decomposes grape sugar into alcohol, carbonic dioxide, glycerine, succinic acid, and other accessory products. If under these conditions it perish soon, the proportion of alcohol produced is very small (*mucor mucedo*, etc.); but if not the decomposition goes briskly on, and it constitutes an alcoholic ferment, which behaves like the yeast of beer in similar circumstances. With *mucor circinelloides*, for example, cultivated in the must of beer sheltered from the air, the activity of the decomposition of the glucose is equal to that of *Sacch. cerevis.*, the products formed being alike in character and quantity.

BACTERIA FERMENTS.

Bacterium lactis (*micrococcus lactis*). About 0.0015 to 0.003 m. m. long, with central constriction (*Pasteur*). Found in short chains sometimes zooglæa; motile. Causes the lactic acid fermentation, transforming sugar of milk into lactic acid. Anaerobic.

Bacterium aceti (*mycoderma aceti*). Rather smaller than the preceding, being about 0.0015 m. m. long. Frequently found forming chains and pellicles on the surface of the liquid. Motile. Believed to be the ferment which oxidises alcohol and transforms it into acetic acid, and the agent in vinegar production. Found in profusion in sour beer.

PRESERVATION OF ALCOHOLIC YEAST FUNGI.

It has been demonstrated that expressed grape juice owes its fermentation to the germs which adhere externally to the grape before that is crushed. Under natural conditions the different alcohol yeast fungi are developed chiefly in summer on the surface of fleshy and saccharine fruits at the time of their maturity. After the autumnal fruit harvest the alcoholic fungi are preserved during the

cold weather in the soil, whence in spring they are carried by insects and deposited upon flowers. Endowed with strong resisting power, the survivors of the severity of winter grow and multiply by incessant sowing and transportation by insects. From the flowers these ferments are by the same carriers transported on the fruit prior to its maturity.

NATURAL FERMENTATION.

Strictly speaking alcoholic fermentation is not spontaneous. It can take place only under certain conditions of density, temperature, moisture, &c. So long as the juice is retained within the fruit, there is no vinous fermentation. As long as the skin remains unbroken, the fungi setting up this fermentation are excluded by the sound skin. On expression from the fruit, the expressed juice, after a longer or shorter interval enters upon the first "natural" stage or change—alcoholic fermentation. When that change is completed, a second takes places. This new stage is that of acetous fermentation. When the second stage is finished, a third stage sets in, which may fairly be called putrefactive fermentation, or a process of decay; all three stages are alike "natural," and are possessed of an equal degree of spontaneity (this word being used in a popular, not a scientific, sense). Expressed grape juice, under favouring conditions, becomes, if not interfered with, first, fermented wine; second, vinegar; third, a decaying body. No fermented wine can be procured unless the chain of "natural" changes is arrested immediately on or before the completion of the first stage, that of vinous fermentation. In the production of genuine unfermented wine the "natural" chain of changes is arrested prior to the commencement of the stage of alcoholic fermentation. Therefore, in the preparation of both fermented and unfermented genuine wines there is an interference with, an arresting of "natural" changes.

ON ALCOHOLIC PARALYSIS.

By DAVID DRUMMOND, M.A., M.D., *Physician to the Newcastle-on-Tyne Infirmary, &c.*

Few varieties of paralysis are more common and present more characteristic features than the alcoholic; and yet it is seldom recognised, and certainly cannot be said to have received the amount of attention it deserves at the hands of the profession. Patients die of the lesion, and they are simply said to have drunk themselves to death, or, if a more accurate diagnosis be demanded, to have died of softening of the brain. Other cases are mistaken for acute ascending or Landry's paralysis; while not a few are confounded with locomotor ataxy, and are not unfrequently permitted to hurry on the fatal termination by relying for relief upon the "hair of the dog that bit them." In calling attention to the group of symptoms which constitute alcoholic paralysis, it will be more in accordance with the object of the present communication to omit the details of cases, and simply to deal with the subject in the abstract.

In the great majority of the cases the patients are females: indeed, so rarely do males suffer, that the impression has gained ground that they are well-nigh exempt. However, this is not so, as my case-books, as well as the experience of such men as Wilks, Ross, Dreschfield and others, can testify. Of course the history of alcoholic excesses is an important factor in the diagnosis, but, even without this positive information it is, I believe, quite possible to arrive at the conclusion — though it may not always be wise to express it — that the symptoms are due to alcohol. It is the more important to attend carefully to the diagnostic features, as it is often a difficult matter to procure a history of intemperance in the case of women; indeed, many patients when asked the question will assert most positively, with the assumption of a tone of injured innocence, that they are almost total abstainers and never drank to excess, when a few words with the relatives

reveal a striking history to the contrary. In truth, so little reliance is to be placed upon what intemperate women may say, in whatever class of life, touching the question of intemperance, as to make it an unprofitable inquiry at best. With men it is otherwise, for they are prone to confess their weaknesses with perfect candour; but it may be that the opposite sex have forgotten theirs, for female alcoholics are very liable to a marked mnemonic impairment — a point to which I shall have occasion to refer again.

We may expect to meet with alcoholic paralysis at any age at which the excessive use of alcohol is commonly indulged in. In my own experience the disease attacked patients of from twenty-five to sixty years, but the majority of the cases were between thirty and forty.

As a rule, the symptoms come on gradually and overtake the chronic toper as she is imbibing her usual daily supply of alcohol, though occasionally the affection makes such rapid strides during a *drinking bout* as to give rise to the statement that the attack began acutely. No doubt in some instances the paralysis develops almost suddenly, when the term acute alcoholic paralysis would be justifiable.

The first complaint indicative of the approach of paralysis is usually the feeling of numbness in the lower extremities, the feet and calves being first affected in this way, and not unfrequently the symptoms commence distinctly in one leg. By degrees difficulty is experienced in walking, the limbs feel heavy, and the movements are somewhat shuffling and uncertain. At this time, or ere this, the characteristic pains make their appearance. These constitute a most important symptom, and alone may furnish sufficient data upon which to found a diagnosis. The pains are of two, or perhaps

it is more correct to say three, varieties; in the first place they may shoot down into the soles of the feet or other part of the lower extremities, when they simulate very closely the lancinating pains of locomotor ataxy; in the next they are often of a more constant and rheumatic character, and are increased by every movement; and, thirdly, there is soreness felt in the feet and affected muscles when these parts are touched or grasped. This latter symptom is very suggestive, and usually the patients exhibit little or no fortitude in bearing it. In some cases one or more of these varieties of pains may be absent, but the tenderness of the feet and muscles (especially the latter) induced by pressure, is nearly always present. Many cases never advance further than this degree of paralysis, but gradually recover, provided the alcohol be withdrawn. Others again advance by degrees, the motor weakness increasing until the patient can no longer walk, or even stand. Along with this increasing motor weakness is observed a corresponding diminution in the bulk of the muscles, the atrophy and paralysis generally affecting the muscles which flex the foot, as well as the quadriceps femoris, and those of the calf, most profoundly. As a rule, the patient lies slightly on one side with the knees somewhat flexed and the feet extended at the ankle. The muscles feel soft and flabby, and are often, as has been stated above, exquisitely tender. Along with the atrophy is noted a marked diminution in faradic contractility—indeed, the strongest interrupted current generally fails to produce contraction, and there may be, stating it as a general galvanic reaction, an increased activity to the slowly interrupted continuous current. At first, before the paralysis is advanced, there is usually to be found a somewhat lively plantar reflex, and at this stage the knee-jerk is often present, but both phenomena diminish *pari passu* with the increasing paralysis and wasting until they *entirely disappear*; though it is always to be borne in mind that an hyperæsthetic plantar cutaneous surface may simulate

very closely an increased plantar reflex. As regards the cutaneous sensibility of the affected limbs, a host of different disturbances may be observed in each case; thus we meet with *hyperæsthesia*, which for practical purposes may be taken to include hyperalgesia — anæsthesia (loss of touch) analgesia (loss of pain)—retarded sensibility, perverted sense of temperature, and so forth. Occasionally, though in my experience rarely, there is a well-marked girdle sensation round the trunk. It is common to find these various sensory defects distributed in patches over the skin of the limbs, so that a cursory investigation may fail to elicit their presence. The skin is often mottled, and presents a more or less cyanotic appearance. In acute cases bed-sores may develop, and control over the bladder and rectal sphincters be lost, though there is generally, even in cases of profound paralysis, full control over the sphincters and a complete absence of bed-sores.

In some cases the paralysis extends to the upper extremities, producing the same motor and sensory disturbances, though in a lesser degree. Thus we have paresis of the arms and hands, commencing with numbness and advancing to motor paralysis and atrophy. The extensors of the fingers are generally most affected, and the paralysis may be limited to one or two fingers, which remain in a semi-flexed condition when the patient attempts to extend them fully. Areas of the skin of the arms are as a rule analgesic, while the others are anæsthetic, and the muscles may be tender on pressure though the pressure though the pains are never so well marked as in the feet and legs.

With the foregoing features of the affection there is nearly always marked hebetude, with loss of memory and other signs of enfeeblement of the mental powers; only once in fifteen cases were mental symptoms absent, and in my opinion they constitute a point of great diagnostic value.

Our patient is now in a miserable plight, her legs are paralysed and wasted, and show a tendency to rigi-

dity, especially when any attempt is made to extend them; she is a martyr to pains in feet and legs, whilst her mental faculties are considerably blunted.

It is very difficult to prognose these cases; some die almost unexpectedly—that is to say, when apparently doing well they develop in the space of a few days symptoms of more profound mental disturbance and sink in a comatose condition; others linger on for years bed-ridden and almost stationary, while not a few run a steady down-hill course and succumb from three to six months after the commencement of the symptoms. The less severe cases usually do well, provided they are properly treated and cared for, some recovering completely and others with a certain amount of motor weakness and atrophy left behind.

As regards treatment, it is of course

of the first importance to remove all alcoholic stimulants, and it is well to recollect that in better class private practice the stimulant is very often indulged in secretly; for even the husband may be profoundly ignorant of the fact that his wife is a drunkard. Opium is usually required to relieve the pains, though belladonna, both externally and internally, and bromide of potassium are also of service. The constant current to the limbs and later the faradic, with massage, are eminently useful in promoting the recovery of motor power and increasing the bulk of the atrophied muscles. In conclusion, I may say that the lesion, so far as the spinal symptoms are concerned, is essentially a *multiple neuritis*, and not central, as was formerly supposed, nerve after nerve, both sensory and motor, falling a victim to the process.—“*Provincial Medical Journal*” for October.



SEVERE VOMITING IN PREGNANCY, DUE TO ALCOHOLISM.

By ARTHUR W. EDIS, M.D., *Obstetric Physician to the Middlesex Hospital; Physician to the Chelsea Hospital for Women.*

THE case related by Dr. Horrocks in a recent issue of the *Journal* encourages me to forward the particulars of the following case, which may prove of interest to many.

A. B., aged 39, married fifteen years, mother of four children, the youngest 7 years old, ceased menstruating early in May, 1884. Within a few weeks from this time, she suffered considerably from nausea and vomiting, which gradually increased in severity and frequency until, at the time of my first seeing her in the latter end of August, the vomiting was incessant, and she was unable to retain anything whatever on her stomach. So severe was the retching, and so grave were the symptoms, that the question of inducing premature labour was raised; and for this reason I was asked to see her in consultation with her medical attendant.

I found the patient propped up in bed, with a flushed congested appearance

of the face. The conjunctivæ were injected; the tongue foul, coated, red, and irritable at tip and edges; the breath was offensive; the voice was hoarse and subdued. She held a basin in front of her, and for the last three or four days had been vomiting almost incessantly, straining herself to that degree that it was feared that some untoward event would happen unless the vomiting was arrested. On inquiry, I ascertained that the bowels were loose and irritable, acting five or six times, at least, in the twenty-four hours. The urine was reported free from albumen, but loaded with lithates. There had been a slight discharge of blood from the vagina a few days previously, but no pains as of threatened abortion. For days past, the patient had taken nothing but brandy and soda, champagne, iced soda, and milk in small quantities. Her pulse was rapid, weak, and irritable; temperature normal. The skin was moist and

clammy. The chest and abdomen were examined carefully, but no well marked abnormality detected to explain the persistent vomiting. On examining *per vaginam*, the uterus was found to be considerably enlarged, apparently about the size of four months' utero gestation. It was fairly normal in position, the cervix being fleshy and somewhat granular.

In consultation with her medical attendant, I ventured to suggest that the vomiting seemed to be due, not to the pregnancy, but to the immoderate imbibition of alcohol; and that I considered her condition so desperate that, if labour were induced, she would probably succumb. Taking the husband into our confidence, the decision we had arrived at was plainly and distinctly stated; and, with his full consent, I was empowered to speak to the patient herself on the subject. She had sufficient good sense to understand the motive for our appeal to her to give up at once all alcoholic liquors, and, as it subsequently proved, sufficient moral control over herself to carry out her resolve.

A mixture of bromide of potassium with compound tincture of lavender and aromatic spirit of ammonia was prescribed, to relieve the distressing sinking and craving; and another, with bismuth, nux vomica, morphine, and hydrocyanic acid, to be taken occasionally to allay the vomiting. The importance of supplying nourishment in the form of nutritive enemata, with or without opium, to allay the irritability of the bowel, until such time as small quantities of jelly, beef-tea, &c., could be retained by the stomach, was insisted on. Under the watchful care of her medical attendant, the treatment indicated was carried out thoroughly, with the result that the vomiting ceased within twenty-four hours, the patient was enabled to retain small quantities of nourishment, and ultimately went to her full time, being safely delivered of a son, both mother and child doing well.

In a letter from the practitioner about six months later, announcing the fact that she was safely over her confinement, he told me that "she proved most sensible and tractable, with a little management, and the secret of her recovery was one glass of Sauterne at lunch and one at dinner, and nothing else in the way of stimulant."

REMARKS.—The case illustrates the extreme importance of differentiating the vomiting *in* pregnancy from that *of* pregnancy. My firm conviction is, that had premature labour been induced on the assumption that the vomiting was due to the pregnancy, the patient would inevitably have succumbed. Her general health was such that even the shock of induction would probably have proved fatal, to say nothing of the risks of exhaustion and septicæmia.

Although in this case there was a clear history of the abuse of stimulants, preceding even conception, I think it cannot be too strongly urged that extreme care should at all times be exercised in suggesting champagne, brandy and soda, and such-like remedies, with a view of relieving the sickness generally associated with early gestation. In strict moderation, such remedies may be of service in some cases; but I have no hesitation in saying that, speaking generally, they only aggravate the sickness and increase the tendency to gastric disorders. We have yet to learn that there is one constant factor which will explain the vomiting of pregnancy. It may be said this is not a case in point; and yet, if we go carefully into the history of these cases, we shall generally, or at least frequently, find that in a large percentage of them there is something perfectly apart from the position or even condition of the uterus itself, to explain the vomiting. Each case must be treated on its merits.—*British Medical Journal*, 10th October, 1885.

ALCOHOL IN HOSPITALS.

MR. GEORGE STURGE, of Sydenham, liberal supporter of metropolitan hospitals, recently published a letter in the *Philanthropist*, in which he said :—

“At a public meeting at Newry it was mentioned that Dr. Gilbert Smith had stated ‘that doctors were more advanced in temperance opinions than the public would believe.’

“It is therefore a reasonable inquiry, How can the friends of temperance encourage the doctors to show more moral courage, and avow their opinions and discourage the use of such dangerous luxuries as beer, wine, and spirits, and prove themselves superior to the unworthy motive of anxiety to please their patients at the risk of danger to their health?

“I wish to explain that personally I hold the medical profession in high esteem, and believe on the whole that they very largely and kindly exert themselves for the poor. That being the case, it is deeply to be regretted that the doctors in most of our London hospitals encourage the use of beer, wine, and spirits, instead of profiting by the example and successful practice of the Temperance Hospital and discourage the use of beer, wine, and spirits, thus encouraging the delusion in their poor patients that either of these dangerous luxuries are needful either for a cure or to preserve health.

“The present time seems suitable to press this subject on public attention, as many hospitals are crying out for funds; and one of our largest hospitals, by the report for 1884, spent £1,349 6s. 7d. in beer, wine, and spirits, which amount, on the Temperance Hospital plan, might have been saved.

“The expenditure in some other hospitals is larger in proportion. Thus, at the London Hospital, with 8,015 patients, it is 3s. 4½d. per head; University College Hospital, 3,152, 2s. 7d.; St. Mary’s Hospital, 2,482,

3s. 11½d.; King’s College Hospital, 2,193, 3s. 0¼d.; Westminster Hospital, 2,154, 1s. 11d.; German Hospital, 1,702, 4s. 8½d. And among Provincial Hospitals :—Manchester Infirmary, 4,249, 9½d.; Queen’s Hospital, Birmingham, 1,921, 1s.

“This diversity in expense seems to me to demand a strict inquiry from the different medical societies and from the public, who may well inquire, Why should there be such a difference in cost between the Manchester Infirmary and the Temperance Hospital compared with the other general hospitals?”

Replying in the same paper to Mr. Sturge, Mr. RICHARD KERSHAW, Secretary to the Central London Throat and Ear Hospital, writes :—“I am happy to state that the medical officers of the Central London Throat and Ear Hospital, Gray’s Inn Road, very rarely order their patients any alcoholic stimulant whatever. I may add that they pursue this course not from any restriction placed on them by the committee, but from the fact that they consider alcohol is but seldom necessary in the treatment of the special forms of disease here received. On the other hand, they find that however justifiable moderate indulgence may be to men when in active work, on which I express no opinion, it is of no service to men who, confined in hospitals, are naturally deprived of bodily exercise. In these circumstances stimulants are not only useless, but often harmful, and it is needless to add that in the numerous cases in which habitual indulgence is *not* moderate, abstinence is of direct curative benefit. We have reason to believe that not unfrequently the habit of taking more stimulants than is necessary, thus broken, is not resumed when the patient leaves the wards. I append a table setting forth the number of in-patients, and the amount expended on stimulants. It illustrates very clearly that patients can be treated on temperance principles in institu-

tions not specially committed to any dogma on that subject :—

Year ending.	No. of Patients.	Cost of Stimulants.			
			£	s.	d.
March 25, 1877 ...	20 ...	1 11 0			
" " 1878 ...	55 ...	1 18 11			
" " 1879 ...	58 ...	0 18 0			
" " 1880 ...	63 ...	0 1 0			
" " 1881 ...	129 ...	1 7 0			
" " 1882 ...	209 ...	1 5 8			
" " 1883 ...	167 ...	0 14 0			
" " 1884 ...	204 ...	0 11 6			
" " 1885 ...	202 ...	1 5 4			

“ From March 25, to the present date (September 21), 137 in-patients have been admitted, but there has been absolutely no expenditure whatever for either beer, wine or spirit.”

On the 5th November, during a discussion upon alcohol by the Governors of the Newcastle Infirmary, the following table was included in a report laid before the Board by Dr. Philipson :—

COST OF STIMULANTS IN A FEW HOSPITALS.

Hospitals.	Cost per Patient.		Cost per Occupied Bed.	
	s.	d.	s.	d.
Leeds	0	7½	10	11
Edinburgh	1	5	19	0
Manchester Royal ...	1	7	22	2
Queen's, Birmingham	1	1	30	4
Newcastle	2	0	28	0
General Birmingham	2	1	32	0
Pennsylvania ...	2	4	28	0
University College, London	2	7½	—	—
Liverpool Southern...	3	2	31	11
London Hospital ...	3	4	44	0
St. George's... ..	4	8½	56	6
Sunderland	—	—	9	0
Northampton ...	—	—	46	8
Liverpool Northern...	—	—	50	0

Hospitals.	In-patients.	No. of Days in Hospital.	Death Rate.	Cost per Patient.			Stimulants as per Reports.		
				£	s.	d.	£	s.	d.
Newcastle	2,578	31	6·25	4	8	1½	316	4	6
Leeds	3,807	21	5·34	2	15	4	124	12	6

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THE BISHOP OF LONDON ON TEMPERANCE IN HOSPITALS.

(From the “Lancet,” October 17.)

THE address of the Bishop of London at the opening of the newly-erected wing of the Temperance Hospital was a model address for the occasion. It was so chiefly because it was in itself temperate. The bishop is understood to be a total abstainer, and his fine physique certainly is no discredit to the doctrine and practice of those whose only beverage is from the “clear stream.” The chief evil

that could be attributed to water as a beverage is a certain intemperance of argument in many of those who use it exclusively. But the address of the bishop is strikingly free from this fault. It must be allowed, too, in fairness, that this intemperance of the temperate is much less frequent than it used to be, and that many abstainers practise their self-denying virtue with a quietness and unostentatiousness

which greatly strengthen their example for good.

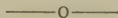
The bishop did full justice to the medical profession when he said that they were quite open-minded on this question. It is true, as his lordship said, that many of the members of the profession are abstainers; but the converse is also true. There is a very considerable number of medical men who absolutely abstain from alcohol; and there is a still larger number, including the most eminent leaders of the profession, who take so little alcohol that they may be set down as practically taking none. There is, too, in the practice of the medical profession a very marked diminution in the prescription of alcohol. It is very seldom prescribed, and when it is prescribed it is in smaller quantities and in weaker forms than formerly. This change is very obvious in hospitals generally, as well as in private practice. One reason for this, in the case of hospitals, is in the almost entire abolition of suppuration which the use of the antiseptic system has brought about. The students who are beginning their education now can form no conception of the significance of this change, which can only be considered second in importance to the introduction of anæsthesia. They cannot realise the pints of pus—often stinking pus—that used to flow, sometimes for weeks, from compound fractures, from stumps, abscesses, and wounds, twenty years since, at the expense of the patient's blood, and to the great risk of his chief glands, and of his vital powers. The process was accompanied with high temperatures, and was most debilitating. All this has been altered, to the infinite advantage of the patient. Thus, not only does antisepticism save limbs, but it saves power, and blood, and glands from destruction. This abolition of suppuration has enormously reduced the need for alcohol as an agent that the profession believes to be most useful in exhausted states. In the medical part of practice, too, improved means of dealing with febrile states, of reducing high temperatures, and averting the prostration which their continuance involves, have

greatly lessened the need for large quantities of alcohol, while more careful clinical observation has enlarged our knowledge of the harm which it is capable of doing in the way of producing disease or disorder of function. We may freely admit, too, to such a fair and sound reasoner as the Bishop of London, that physiology and common observation have been demonstrating for many years the dispensableness of alcohol for ordinary people, especially all young people, in ordinary health. The experiments of Parkes and others, showing the limited power of ordinary people to consume alcohol without its accumulating in the blood or passing out of the system unchanged, and the visible health and spirits of thousands of people amongst us who never taste it, and their good longevity, as shown by the experience of insurance offices, have been too strong to be overlooked by a profession so open-minded and so grave in its responsibilities as ours. On one special point, too, the opinion of the profession is unanimous—that not only must little alcohol be taken if health is to be maintained, but that that little must be diluted, and, above all, mixed with food. No sensible man now will throw raw spirits, or even wine and beer, into an empty stomach; certainly no medical man will advise him to so. The little that is taken must be covered with food, if injurious irritation of the mucous membrane and gastric nerves and the neighbouring liver is not to ensue.

No one will deny that the Temperance Hospital has done good. No member of its medical staff is prevented from prescribing alcohol where it is thought absolutely necessary. This has been done in one in a thousand cases, and the mortality has been only 5 per cent. It may be that the hospital, being still young and withholding alcohol, does not yet receive the full share of grave cases which the confidence of the poorer classes takes to other hospitals. But it is within our own knowledge that very grave cases are taken in and are very well treated when received, and this with results highly creditable

to the hospital. We have only, in conclusion, to assure the bishop and all who are nobly working for the well-being of the people that they

never had more earnest co-operators in the medical profession than they have now.



EXCRETION OF ALCOHOL FROM THE BODY.

BODLANDER considers that the question whether alcohol is a food depends very much on whether it is burnt up in the body or not. He undertook to trace the fate of alcohol received into the body. For quantitative determination he uses Giessler's vaporimeter and the chromic acid reaction. He examined the excretion of the kidneys, skin, lungs, and alimentary tracts. Experimenting on himself he took 50, 60, 70, 80, and 90 cubic centimeters of alcohol in concentrations of 20, 25, 33, 44.5, and 50 per cent. respectively in succession. The greater part was excreted in the first hour, a lesser proportion in the second, and only traces occasionally in the third. The total average excretion was 1.177 per cent. of the amount taken in. In a dog even very strong doses which quite overcame the animal, could not produce an excretion of more than 2.41 per cent. Skin.—Twenty cubic centimetres of alcohol diluted with ten of water were injected under the skin of a dog weighing 7,460 gm. Seven hours after the air in his box was tested by the chromic acid reaction. It was found that 0.395 per cent. of the alcohol was excreted by the skin. In another more carefully conducted experiment on a dog of 4,180 gm. in weight, 3.12 per cent. of the alcohol injected (15 ccm.) was excreted. Further experiments proved that alcohol taken in through the stomach is *not* excreted through the skin. The Lungs.—Thirty ccm. of alcohol diluted with 70 ccm. of water was injected into the stomach of a dog weighing 6,800 gm. It was found that 1.683 per cent. was excreted by the lungs,

using the same box and test as in the preceding (*mutatis mutandis*). The mean excretion in these experiments was 1.946 per cent. This method for obvious reasons does not suit itself to the human subject. B. adopted as the best process the one of blowing the expired air through a chromic acid solution immediately. After drinking 60 gm. of alcohol mixed with 50 gm. of water it took $5\frac{1}{2}$ minutes to produce a green colour in 20 ccm. of chromic acid solution. One hour afterwards it took the same time, two hours later it took six minutes, sixteen hours after the commencement it took twenty minutes to reduce 20 ccm. After nineteen hours reduction ceased. Calculating on an average in this way, he reckoned that 1.58 per cent. of the alcohol received was excreted through the lungs. Alimentary Tract.—He found that no alcohol is excreted through either the alimentary canal or (in opposition to the common opinion) in the milk.

Conclusions.—B. concludes that no considerable quantity of alcohol is disposed of unchanged. He also searched carefully for aldehyde and acetic acid, and decided that they could not be the final products. Much rather is it to be assumed that under ordinary conditions at least 95 per cent. of the alcohol taken in is burnt off into CO_2 and water. But from this it follows that alcohol is a nutrient material, superfluous indeed in health, but in sickness a most important and sometimes the only available one.—Translated from *Schmidt's Jahrbucher*, by T. Esmonde Cahill. *Medical Press*, October 7.



British Medical Temperance Association.

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President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION.

Not less than Five Shillings.

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Honorary Secretary.

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NEW MEMBER.

J. KEATLY, Esq., Dublin.

NEW ASSOCIATES.

P. KELLY, Esq., Dublin.

V. L. WATTS, Esq., Dublin.

Enfield, December, 1885.

J. JAMES RIDGE, M.D., *Hon. Sec.*

QUARTERLY GENERAL MEETING.

A GENERAL Meeting of the Association was held in the Medical Society's Rooms, Chandos Street, Cavendish Square, on Tuesday, 1st December; Dr. Richardson, F.R.S., in the chair.

A communication was made by Dr.

RIDGE as to a case of cholecystectomy at the London Temperance Hospital. He said: The chief reason I have for bringing the following case before you is in order to put on record a remarkable illustration of the recupe-

rative power of nature, especially the recovery from severe collapse without the use of alcohol. S. D., aged forty-two, married, five children, was admitted into the London Temperance Hospital for sciatica. She was also found to have a tumour in the abdomen, which she had had for eleven years. As this had been increasing in size, especially of late, she was very anxious for its removal. The tumour was situated on the right side of the abdomen, almost entirely below the level of the umbilicus, and extending into the right iliac region. It was hard, globular, about the size of a child's head, and movable with considerable freedom. There was no fluctuation, impulse, or tenderness. The catamenia had ceased for some years; every other function was correctly performed. The patient was under treatment for her sciatica for three weeks, and the tumour appeared to have slightly increased in size during that time. It was regarded as ovarian. The operation for its removal was performed on September 28th. On opening the abdomen by a median incision the tumour was discovered to be attached by a short, flat pedicle, about two inches broad, to the lower edge of the liver. There was also slight adhesion to the omentum. The latter was easily broken down, and the tumour was then emptied by means of Spencer Wells' trocar; about a pint and a half of thick, whitish puriform fluid was drawn off. The pedicle was then transfixed and tied. On cutting away the tumour one side of the ligature slipped, some hæmorrhage occurred from a small artery, and venous oozing from the cut surface. The former was secured, and the oozing arrested after some time. The wound was then closed, and dressed antiseptically with a drainage tube. The next day profound collapse set in, with sickness, coldness of the extremities, scarcely perceptible pulse, and quick breathing. The temperature fell to 96.8° . Some oozing had occurred from the drainage tube. Warmth was applied externally, and a turpentine enema administered. A mixture of carbonate of ammonia,

ether, and chloroform water was ordered, but could not be retained. The vomiting was relieved by a subcutaneous injection of morphia. During the night a large quantity of sanguineous fluid escaped from the wound. She retained soda water and milk. On September 30 there was a slight improvement, but reaction did not set in decidedly till the third day, when the temperature rose in the evening to 100° . The oozing from the wound dwindled to almost nothing by October 3, but the temperature increased to 103° by October 4, and remained about this point for several days. The patient had many symptoms of local peritonitis, with dry tongue and quick pulse, but no rigors. On October 13, after a previous ineffectual attempt, 34 ounces of thick, dark, bloody fluid, was drawn off by the aspirator from the abdomen in the region of the stump, to the great relief of the patient. On the 14th the aspirator was used again, and 31 ozs. of similar fluid removed. On the 16th, as more fluid had collected, an incision was made and a drainage tube was inserted with antiseptic precautions. The temperature then soon fell to normal, and all the other bad symptoms disappeared. Through the closure of the wound after a few days a slight relapse occurred through the collection of some pus, but a good recovery was eventually secured. The tumour weighed one pound when empty. Three gall-stones about the size of marbles were found within it. The walls were about one-eighth of an inch thick when distended. It was clearly an enormously distended gall-bladder, through occlusion of the duct. As I have observed, the chief points of interest are the recovery from prolonged collapse, and the remarkable way in which the serous and sanguineous oozing from the pedicle was isolated by adhesions so that there was never any general peritonitis. When reaction did occur, it was not at all excessive. Whether alcohol would have been of any service is a debatable question. The patient rallied without it; and, therefore, one must feel sceptical whether, in the

cases of similar recovery with alcohol, the result is due to the use of it. I am inclined to believe that the reactionary fever is higher when alcohol has been used during collapse. In conclusion, I must acknowledge the valuable assistance of Messrs. Bluett and Nicholson, the house-surgeons, during and after the operation.

The PRESIDENT said that the case of Dr. Ridge was interesting, because he had had the courage to refrain from giving brandy in a case of collapse. This was an example of courage that he personally had not shown. He had compromised the matter by giving small doses of alcohol, and thought he would have done so in this case from a feeling that it was bad to give up an old practice. If they could get too such cases where good recoveries had been made without alcohol they they would be most valuable.

Surgeon-Major G. K. POOLE asked whether the collapse had been caused by shock or hæmorrhage—if the latter the use of wine was decidedly injurious.

Dr. RIDGE replied that the cause of collapse was undoubtedly shock. The hæmorrhage was not sufficient to cause it.

The PRESIDENT said the profession was pretty well agreed not to give alcohol in hæmorrhage, and personally he came to that conclusion long before he was an abstainer. Sir James Paget, in consultation with him, expressed himself of the same opinion. Cases of shock were different altogether.

Dr. NORMAN KERR had never given alcohol in exhaustion from loss of blood except in two cases of collapse, and then only till other and safer stimulants could be procured. Both cases made a good recovery, the collapse being extreme in each. External warmth, ergot, and aromatic spirit of ammonia, were given as soon as they could be procured. He was quite sure that, unless in the absence of every other stimulant, alcoholic liquid was best avoided in this form of collapse. He had seen some cases of collapse from injury recover without the administration of alcohol or any medicine, while others had recovered apparently

benefited by alcohol or some other stimulant. The danger of alcohol lay in the liability to reactionary fever, and he preferred compound cinnamon powder in hot water or sometimes coffee, inasmuch as the risk of reaction was less than after alcohol. He had often seen dangerous reaction after an intoxicant, but, in a large variety of cases of collapse from injuries of various kinds, he had met with comparatively little trouble from reactionary symptoms on his own practice of applying heat externally to the extremities, and giving internally hot coffee, hot soup, compound aromatic powder in hot water, and sometimes, when nothing else was available, hot water alone. In one or two cases, hot milk or hot tea, very weak, had answered admirably. As a rule Dr. Kerr was of opinion that alcoholic drink lessened the chance of recovery in surgical collapse.

The discussion was continued by Dr. BLUETT, House Surgeon of the London Temperance Hospital, and at its close Dr. RIDGE received a hearty vote of thanks.

A paper followed by Dr. NORMAN KERR on "The Fungi of Alcohol Fermentation," which is given in full elsewhere.

After several questions had been asked and answered, the President, Dr. B. W. RICHARDSON, in proposing a vote of thanks to Dr. Kerr, remarked that the paper was a lucid and exhaustive lesson, and practically left no room for discussion. The accurate scientific teaching it embodied would be of permanent value in the dissemination of the truth as to alcoholic fermentation, especially as to the identity of the process in the preparation of all fermented intoxicating liquors.

Dr. RIDGE, in seconding the motion, stated he felt convinced that the scientific information conveyed in Dr. Kerr's paper was of inestimable importance, teaching the great truth that the nature of all liquors which had undergone the alcoholic fermentation was the same, that in fact such beverages were all intoxicants. The addendum on "natural fermentation"

was especially well-timed. It was of the highest importance to have it so clearly and authoritatively laid down that alcoholic fermentation produced intoxicating drinks, "natural fermentation" making no difference in the intoxicating property. It was also of great interest to have the statement of the fact that fermented and unfermented wines could be obtained only by the arrest of a chain of natural changes, both, therefore, being in the same position as to being "natural wines."

The PRESIDENT announced that with regard to the essay, for which the Association had offered 100 guineas, thirty-nine essays were sent in, and the adjudicators had been engaged upon them—viz., the Bishop of London, the Attorney-General, Dr. Norman Kerr, Dr. Ridge, and himself. The task had been laborious; but they hoped that within the month the successful competitor would be known to the committee. They proposed to hold a large meeting for the presentation of this prize.

Society for the Study and Cure of Inebriety.

AUTUMN QUARTERLY MEETING.

AN ordinary meeting of the Society took place on Tuesday, 6th October, in the Rooms of the Medical Society of London, with the President, Dr. Norman Kerr, in the chair.

The PRESIDENT reported that he had attended the International Congress against the Abuse of Alcohol, at Antwerp, and had read a paper on "Habitual Inebriety." The authorities were taking steps to establish a Home for Inebriates in Belgium, and the War Office had prohibited the sale of ardent spirits in the canteens. He proposed:—"That this meeting desire to express their unfeigned sorrow at the loss of their distinguished Associate, Earl Shaftesbury, who to his other noble philanthropic efforts added invaluable service in securing the passing of the Habitual Drunkards Act, who intelligently understood and ably expounded the diseased condition of the confirmed inebriate, and who was untiring in his devotion to the divine work of the rescue, reformation, and cure of the victims of alcoholic excess." Earl Shaftesbury had long been a true and constant friend of the movement for improved legislation on behalf of the habitual drunkard, and piloted the Habitual Drunkards Act through the House of Lords, had taken a lively interest in the Dalrymple

Home for Inebriates, of which he was President, and had been an active Associate of this Society. Earl Shaftesbury clearly saw the twofold physical and moral nature of habitual inebriety, and embraced every opportunity of teaching the diseased state of the confirmed drunkard.

Dr. GEORGE ROBERTSON seconded the resolution, which was agreed to.

On the motion of the PRESIDENT, who stated that their deceased Associate had been a total abstainer for nearly half a century, seconded by Surgeon-Major Poole, a resolution of regret at the death of Mr. Andrew Dunn was passed.

Mr. C. G. ROBERTSON, late King's Own Regiment, read a paper on "The Cause of Intemperance," in the course of which he said: The first step in any inquiry, although some modern professors reject the method, is to state your question in the simplest terms. The total abstainer says "drink," and he is pleased with this answer. A more effective reply would be—men; for without men there would be neither drink nor drunkenness anywhere in space. But we may take leave to amend the first answer thus: "not drink," but "too much." From high considerations and startling fears the transition to the details of our dis-

cussion—to Sunday Closing Bills, Dalrymple Homes, and the mild methods of science—may appear somewhat abrupt. But no warning can seem out of place to one who has heard desperate expedients and profoundly immoral measures publicly discussed, and certain experiments in open robbery actually carried out, although on a small scale for the present. The dipsomaniac (as the name indicates) is merely a species of lunatic. When society has passed this fact, his claims to equal justice and protection will not be denied. The speaker recommended that persons should be educated to drink in moderation, to avoid excess, and thus be a law unto themselves.

The PRESIDENT proposed a vote of thanks to the reader of the paper.

Dr. WILLIAMS opened the discussion by saying that he could not see very much use in teaching people to drink wine. He did not see that they required to be taught to drink, as they learned at a very early age; what they should teach them was to avoid it.

Mr. JABEZ HOGG approved of local option.

Dr. SMITH said that during his experience at the Dalrymple Home he had always found the greatest difficulty in impressing upon the inmates that alcohol was not food. When he succeeded in doing that he had gone a long way to obtain their confidence. As much evil arose from grocers' licenses as from public-houses.

Surgeon-Major POOLE would like to hear more scientific evidence as to *post-mortem* appearances.

Dr. THOMAS EDWARDS held that alcohol was a poison, and ought to be abstained from.

Dr. GEORGE ROBERTSON said bad cooking was a common cause of inebriety.

The PRESIDENT said the lesson it taught was that cheerless environment conduced to the inebriate habit, a truth Lord Shaftesbury had always insisted on.

A paper was then read by Mr. C. HOLTHOUSE, F.R.C.S., on "Critical Remarks and Suggestions on the Treatment of Inebriety." He said

habitual drunkenness was now regarded as a disease, but if so none of the victims could be said to be responsible, and the denunciations of Scripture were launched against people who were not free agents. Against this there was the evidence of drunkards having been cured by moral and religious means. Now his view was that a large proportion of the drunkards were not the victims of a disease but the slaves of a habit, and that there must have been a period when excess would have been regarded as a sinful act, and should have been visited with punishment. We ought not to regard those drunkards as the victims of a physical disease who were simply the slaves of a habit. Many of these acquired the habit from no inherited craving, but from social custom. In some cases the habit had been acquired because of the temptation to indulge without expense, as, for example, waiters, butlers, &c. Drunkenness was called a disease, but by what name should the addiction to opium, chloral, and the like, be termed? By parity of reasoning they should be in the same category. Wherein did the one craving differ from the other? In like manner gambling would come to be called a disease. All this was calculated to get rid of the old idea of drunkenness as a sin. There were varieties of drunkards; but whether drunkenness was a sin or a disease, the object of treatment should be curative. The curative efforts took the form of the preventive, the religious, the rational, and the medical. The preventive treatment looked at drunkenness as a crime, and fines and imprisonment were inflicted—as, for example, in the case of Annie Parker, aged thirty-five, who had been charged 400 times, and had passed nearly all her life in prison. The period of enforced abstinence was so short that it acted as a stimulus to excess. He was convinced that the inebriate was not to be reclaimed by harshness. In the religious treatment he was a free agent, and numerous cures had been effected without a drop of medicine or the slightest restraint. By the moral and rational treatment

he meant the effort made by the individual himself of his own free will, without either religious or medical treatment. In the medical treatment drunkenness was looked upon as a disease, and here retreats must be employed and for a sufficient length of time, respecting which it was impossible to say what was either the minimum or the maximum. The fact was, there should be classified homes as he had suggested from the first, and that patients should be kept employed. He concluded by putting five questions to the society—1. Is it true that in the intermittent forms of drunkenness, the paroxysms, if not treated, become more frequent, or does the converse hold good? 2. In commencing the treatment of an inebriate, is it always expedient to cut off stimulants at once? 3. Is it expedient to allow an inebriate a certain daily amount of alcoholic beverages, and if so, under what circumstances? 4. If, at any time, during the seclusion in a retreat, the drink crave should come on, what is the best remedy? 5. For what type of inebriate is a compulsory clause in the Habitual Drunkards Act required?

In the short discussion that followed, Mr. JABEZ HOGG said he would like to have heard the results of Mr. Holt-house's own treatment.

Dr. EDWARDS advocated total abstinence and religious influence as the cure for inebriety.

The PRESIDENT thanked Mr. Holt-house for his suggestive paper. In England no one taught that inebriety was a disease and nothing more. What they held, with the reader of the paper, was that in many cases it was a true disease. The physical aspect must be looked to as well as the moral. Unconditional abstinence from all intoxicating liquors was a *sine quâ non* of enlightened treatment of this disease. Drunkards had been reformed by mental, moral, and religious influences, but a vast residuum of diseased inebriates remained, whose ailment called for treatment, as did the allied disease of insanity. "The alcohol habit" was a phrase used, as was "the opium habit," and there were opium, chloral, and chloroform inebriety, just as there was alcohol inebriety.

Notes and Extracts.

THE USE OF ETHER AS AN INTOXICANT. — One of the members of the Diocesan Synod of Armagh, at its recent meeting, made reference, in discussing the report submitted on temperance, to a practice which exists in various parts of the North of Ireland, namely, the consumption of ether instead of whisky. A large traffic exists in ether, more especially as it is a cheaper intoxicant than whisky. Several cases of insanity are stated to have occurred from the excessive use of ether, some at present being in the Omagh and other lunatic asylums. The following resolution was adopted by the Synod:—"That the Temperance Committee be

requested to endeavour to obtain legislation which will prevent the unrestricted traffic in ether and other noxious drugs prevalent in certain parts of the diocese."—*British Medical Journal*.

AMERICAN TEMPERANCE HOSPITAL AND MEDICAL COLLEGE.—A gentleman, a pioneer in the temperance work, has made provision in his will, to the amount of 2,500 dols., for the National Temperance Hospital and Medical College, to be established in Chicago. At the present time there is not, to our knowledge, a medical college in America where the students are taught the dangers of alcoholics, nor a hospital where the

sick are treated without them. Perhaps, primarily, the advance of the temperance cause depends very largely upon the position which physicians take in regard to it. And how can they know unless they are taught in the college lectures and clinics? This lack of temperance therapeutics in medical education is a *danger point*, which our temperance friends should not neglect a moment longer. —*Journal of Heredity*, edited by Mary Weeks Burnett, M.D.

PILOCARPIN IN ACUTE ALCOHOLISM. —In an article in the *Philadelphia Medical News* (Sept. 19), Dr. Josham relates some cases in which he had found pilocarpin in doses of a third of a grain exerted very decided effects in persons suffering from the effects of drink. "Its sobering properties," he says, "are remarkable." "After the sleep, the patient arouses perfectly rational and subdued, a consummation of no little importance, as all know who have to treat the victims of alcohol, since it renders them amenable to moral influences. The transformation wrought on the physical appearance is almost marvellous. The tense, red, bloated countenance, the bleared congested eyes, and general repulsive facial aspects, pass away. The skin looks pale, clean, and soft, the features calm and easy, the eyes clear, or only with a slight yellowish fringe. Clothed in such an innocent guise, the subject of a recent debauch might easily deceive even an expert. There are three ways in which pilocarpin doubtless exercises a therapeutic influence in alcoholism: (1) By lowering cerebral blood pressure; (2) By eliminating alcohol; (3) By increasing the absorption of oxygen." —*Medical Times*, October 24.

IS ALCOHOL A FOOD? —Regarding the much-disputed fate of alcohol in the animal system, Professor Cloetta published some little time ago, in the *Korresp. Bl. f. Schw. Aerzte*, some original investigations. The conclusions he arrives at are—that alcohol becomes converted in the system into carbon dioxide and water; that only a very small proportion passed off as alcohol by the lungs, kidneys, and

skin, and that nearly the whole of the quantity consumed becomes oxydised. None is found in the fæces or milk. In moderate doses it has no influence on the body heat, and it only lowers it when taken rapidly and in large quantity, the effects being the same whether fever is present or not. In the tissues, in consequence of absorption of oxygen by the alcohol, tissue metamorphosis is checked, and the essential constituents of the urine are diminished. Alcohol is in so far a food, that it protects against too rapid consumption. It is thus an important agent in febrile cases in daily divided doses of 150 to 200 grms. In larger doses its importance as a nutrient and conserving agent recedes, and its effects become injurious, and accumulation of the terminal products of tissue metamorphosis takes place along with increase of uric acid and urea. This fact indicates that oxydation in the tissues has its limits, and that the terminal products of tissue metamorphosis may be produced in other ways. —*Medical Press*, October 21.

ALCOHOLIC PARALYSIS. —Paralysis, resulting from alcoholism, has been studied by M. Lancereaux. Dr. Oettingen, formerly his house-surgeon, has chosen this important subject for his doctoral thesis. This form of paralysis, according to Dr. Oettingen, is not of central origin but peripheral, and results from diffused neuritis. Alcoholic paralysis is always preceded by a series of symptoms, clearly indicative of alcoholism, and is accompanied almost always by phenomena special to this form of paralysis, namely acute pain in the limbs, pricking sensations, and paresis, which is most intense on walking, and is generally the forerunner of paralysis. The extensor muscles of the toes are paralysed the first, and the foot resembles a case of talipes. This form of paralysis sometimes steals on slowly, at others increases rapidly, and becomes generalised. Facial paralysis never occurs, and deglutition is rarely affected. The bladder and intestines preserve their normal condition, neither is there paralysis of the muscles of the eye.

Clinically speaking, there are three different forms. The first consist of paresis easily cured; the second is chronic paralysis, and may continue for months and years. The third progresses rapidly, and is generally fatal after a few months. The general health becomes seriously deteriorated, the tongue is dry, incurable diarrhoea sets in, with frequent sickness, and eschars appear on the sacrum. Generally, muscular atrophy accompanies alcoholic paralysis, also trophic and vasomotor disturbance. The pain is best combated by electricity.—*Paris Correspondent of the "British Medical Journal,"* October 17.

NURSING REFORM.—Nursing is one of those occupations in which there are special temptations to the formation of drinking habits. Long hours of work, confinement to an unhealthy atmosphere, and the monotony of an unvarying daily routine, all combine to lead to alcoholic indulgence. Although the days of Sarah Gamp are, it is to be hoped, over, it is none the less true that many a skilled nurse falls a victim to the vice of drunkenness. It is therefore with pleasure we note that a newly formed Association for Training and Employing Nurses have, in their book of rules, laid down stringent regulations on this point. We refer to the Hamilton Association for providing Trained Male Nurses. It is stated that the "Committee will insist upon the following qualities on the part of candidates, namely—*absolute sobriety*, good moral character, and general respectability." The professional qualifications then follow. The following are the rules as to beverages:—"When nurses are kept in attendance on invalids between the hours of ten o'clock p.m. and six o'clock a.m. they will be allowed tea, coffee, or cocoa, in addition to any necessary food. Beer and spirits are absolutely prohibited, except that at dinner and at supper a nurse may have one glass of malt liquor, but the whole allowance per day not to exceed one imperial pint. *In selecting nurses for duties of special trust, preference will be given to those who abstain from all spirituous and fermented drinks.*" The italics are ours. We

understand that there are several total abstainers amongst the trained male nurses already enrolled, and doubtless more would have joined the Association if the advantages it offers had been known to them.—*Temperance Record*, Dec. 17.

THE TEMPERANCE MOVEMENT IN HOSPITALS.—A correspondent writes:—"On Wednesday, December 2nd, was celebrated the first anniversary of a somewhat novel institution, namely, a branch of the Church of England Temperance Society, incorporated especially for the staff of the Hospital for Sick Children, Great Ormond Street. This little society includes 80 per cent. of the hospital staff, and bids fair, by its utility, to increase its hold upon the organisation. After a service held in the beautiful chapel of the hospital, an address was given by the Rev. N. Dawes, a member of the council of the parent society, on the religious aspect of Temperance. Adjourning to the Board-room, a meeting followed, presided over by the vice-president of the branch, who was supported by Mr. W. H. Barry, a member of the hospital committee; the Rev. N. Dawes; Dr. Barlow, one of the physicians of the hospital; Miss Ursula Gardner, the honorary secretary of the Juvenile Union; Mr. Wyatt, of the parochial branch, and others. The speeches were listened to with much interest; that of Dr. Barlow, from the medical standpoint, should be instrumental in winning recruits to the Society, dealing, as it especially did, with the exceptional work of nursing, and the temptations that might arise in such occupation to seek relief by the use of stimulants. If such societies can be conducted on a liberal and tolerant basis, it seems that much good might be effected. Besides the advantages to the individual in joining such a society, the influence on the patients in an hospital, many brought there through intemperance, might be very great. We should like to hear that other hospitals have followed the example of that in Great Ormond Street."—*British Medical Journal*, Dec. 12.

THE
MEDICAL TEMPERANCE JOURNAL.
April, 1886.

Original Contributions.

ON THE ACTION OF ALCOHOL ON THE
RESPIRATION.

By DAVID BRODIE, M.D., *Canterbury.*

SEVENTY-THREE years ago the distinguished chemist and original inquirer, Dr. William Prout, made some most interesting and valuable experiments on the various conditions which influence the discharge of carbonic acid gas by the lungs in breathing. In the course of his observations, Dr. Prout was much surprised to find that the quantity was much diminished after he had taken *porter* with his dinner, while the reverse was the case when he took only water. After repeated experiments the fact was established that alcohol, in its various forms, has a constant and very marked influence in diminishing the quantity of carbonic acid in the respired air.

Several important researches on the same lines have been undertaken by practical chemists in later times, to which, as well as to the details of Dr. Prout's experiments, we shall by-and-bye refer; but to Dr. Prout must be accorded the honour of initiating this inquiry, and of carrying it sufficiently far to supply most valuable and trustworthy data to elucidate the history of the action of that most mysterious spirituous agent in the animal economy. It were vain to dwell on "what might have been" the position of humanity in relation to the terrible alcohol question at this day, had this fact and its true significance been recognised in 1813, and upheld as a beacon light from that day to this. Of this much we may be sure, that much of the learned and laboured disquisition on the benignant influence of alcohol, which has been inflicted on these later ages, and which goes on under full pressure to this present hour, would never have been heard,—the contest which brave and enlightened men have so long and nobly upheld against the drinking usages of society, and the

disease and desolation and death which follow in their train, would have been more effectively sustained, and would have had more decided and conclusive results than we can yet boast of,—and, what is of more importance than aught else, the medical profession would not have been disgraced and degraded by the pseudo-science and specious fallacies which have been so liberally presented in maintaining the usefulness of alcohol as a supporter of life and a remedial resource in disease,—men of high standing in the profession would not have hazarded their reputation for scientific precision, on such flimsy arguments as have been often so confidently and complacently adduced, had Dr. Prout's sagacious and scientific conclusions been before them.

That this precious and signally instructive fact in the history of alcohol, with practical bearings on human well-being of the most urgent importance, and which had been revealed to us by an observer so enlightened and trustworthy as Prout has been proved to be, should have been so overlaid and buried, as Carlyle would say, in the rubbish heaps and dust whirlwinds of the past, as to have been almost wholly lost, is truly difficult to explain. It is a sad illustration of the truth that when facts conflict with prevailing prejudices, they are pretty sure to be ignored and, unfortunately, in this case, the seductive character of the material has given extensive currency to the prejudice that people are benefited by the use of alcohol, and that it deports itself as a salutary agent in the system; and this prejudice is not only deeply ingrained in the vulgar and unthinking portion of society, but it largely pervades the theories and practices of the medical profession.

The more famous chemist, Liebig, followed Prout at an interval of about twenty years, and his name also stands prominently associated with the alcohol question, but in such contrast to that of Prout as is painful and humiliating to contemplate. Liebig has not left us a single observation of value on this subject, but he has flooded the age with ingenious and plausible hypotheses, under which most mischievous fallacies as to the influence of alcohol in the living economy have received extensive circulation, and have become deeply entrenched both in the popular and professional mind of the times, apparently almost beyond eradication:—while the grand demonstration of the true action of alcohol by the patient and painstaking and unpretending investigator, tracing out the secret and unsuspected working of the insidious spirit, has been allowed to lie almost unheeded, noticed only by a few sympathetic seekers after truth. The truth, according to Prout, has been practically ignored, while the specious fallacies of Liebig have had universal acceptance—have been as widely swallowed as the dangerous and deluding agent they were intended to commend.

Such is too often the fate at once of the flatterers, as of the benefactors of humanity,—*veritas vincit*,—sometimes very slowly. A remarkable reference to these two chemists by Dr. Marshall Hall in 1837, came recently under our notice. Marshall Hall had to fight a hard battle for the acceptance of the results of his original investigations on the nervous system by the profession, as all discoverers of great truths have had to do, and he keenly resented, in words more plain than pleasant, the opposition he received. “The present,” he says, “has been too justly designated ‘the age of medical degradation.’ . . . When members of our profession shall be really and fully imbued with all its literature, they, and it, will take the station which is due to them. But there are those who actually boast that they never *read*!—that is that they are without science and without literature; that, for them, Prout and Liebig have laboured and written in vain! The result is that our profession is indeed in a state of degradation.”

We fear that we can only intensify rather than mitigate, which would have been a much more agreeable task, this severe censure; for we have to point out that the labours and writings of Prout, which require some reflection and study to appreciate, have been neglected and laid on the shelf, wholly lost to the cause of temperance,—while the “baseless and arbitrary assertions,” as they are characterised by one of his own countrymen, “with which Herr von Liebig has a peculiarly facile talent for propping up his conclusions, dazzling and bribing his public withal”—have been received as gospel truths, and have been retailed in vindication of most discreditable recklessness in the employment of alcohol.

Dr. Prout's whole inquiry is of the greatest interest and importance as illustrating the extreme caution and carefulness which he brought to the investigation of a new and strange subject; for we must remember that it was undertaken in the very early days of pneumatic chemistry,—a department of science in which subsequent investigators have added much to our knowledge. But as a great basement fact, second in importance to none, in the great campaign against alcohol, of which we have not yet seen the end, the paper of Dr. Prout* should be republished in full and widely distributed, so that no one, especially in the medical profession, could undertake to speak on the subject without being confronted with the facts put on record by that distinguished and enlightened authority.

In the meantime we must be content to present in the shortest

* “Observations on the quantity of Carbonic Acid emitted from the Lungs during Respiration, at different times, and under different circumstances.” By William Prout, M.D. “Annals of Philosophy,” November, 1813.

possible compass the observations which directly bear on our present subject, and we shall endeavour to place the facts in such a light that both friends and foes to the temperance movement may read, mark, learn, and inwardly digest their significance.

Prout's observations were extended over a period of three weeks, and the experiments were made every hour, and sometimes oftener, during the day, and occasionally during the night. The first step in the procedure was to determine his normal or health standard, and after careful observations Prout found the mean for the twenty-four hours, viz., 3·43 per cent. of carbonic acid gas in the respired air—the maximum being 4·10 about noon, and the minimum 3·30, which prevailed during the night. The effect of rest, exercise (bodily and mental), was noted, and some interesting results are recorded. On the immediate effects of taking food Dr. Prout remarks:—"The effects observed from food have not been remarkable, and apparently little more than to keep up the quantity to the standard, and sometimes to raise it a little above, certainly never to depress it below, unless I took some fermented liquor, and then it was always depressed, as will be seen immediately. Abstinence from food for twenty-one hours, was found to depress the quantity of carbonic acid very little below the usual standard." We quote Prout's own words as to the effect of alcohol. He says:—"Alcohol and all liquors containing it which I have tried, have been found to have the remarkable property of diminishing the quantity much more than anything else that has been made the subject of experiment. This was so unexpected on my part that I was prepared to meet with the reverse. I was first led, however, to suspect the accuracy of my opinions by observing that when I took porter with my dinner the quantity was always reduced much below the standard, when the reverse was the case when I only took water. This induced me to make some experiments on the subject; and their results were such as fully to persuade me that *alcohol, in every state, and in every quantity, uniformly lessens, in a greater or less degree, the quantity of carbonic acid gas elicited, according to the quantity and circumstances under which it is taken.* When taken on an empty stomach its effects are most remarkable; in this case they appear to take place, and the depression to be greatest, *almost instantaneously*; after a short time, however, the powers of the constitution appear to rally, and the quantity rapidly increases; then it sinks again, and afterwards slowly rises to the standard. I have generally observed this sort of *oscillation* when the quantity has been suddenly and greatly raised or depressed from any cause, and I have been ready to account for it by supposing that the sudden and great exertions of the animal powers required to counteract the effects of a poison

or other injurious cause operating, made them, as it were, *over-act* themselves. Upon a full stomach, as after dinner, the effects of vinous liquors are more slow, but no less sure and remarkable; I have even thought them more permanent; but this might arise from my having taken a larger quantity than I chose to do on an empty stomach. As long as their effects are perceptible, so long is the quantity of carbonic acid gas emitted, below the standard."

The results of Dr. Prout's experiments are presented in twelve tabular statements; of three experiments only we present the most striking details:—

	Hour of Observation.	Observed quantity of carbonic acid, percentage in respired air.	Remarks.
	P.M.		
1	1.15 ...	3.85	Before dinner.
	2.25 ...	3.55	Twenty minutes after dinner with porter.
	3.55 ...	3.60	
	4.55 ...	3.60	
	A.M.		
2	11.40 ...	4.00	Before taking wine.
	P.M.		
	12.10 ...	3.00	Five minutes after taking 3 oz. wine.
	1.25 ...	3.10	
	3.0 ...	3.00	Twenty minutes after a walk and dinner.
	3.30 ...	3.10	
	3.55 ...	3.00	Ten minutes after taking half-pint of wine.
	4.30 ...	2.70	Very strong effects of wine—vertigo, &c. This is the lowest point to which I have ever seen the quantity reduced.
	5.0 ...	2.90	
	8.5 ...	3.60	Here the effects were gone off. Frequent yawnings, and a sensation of having just awoke from a deep sleep.
	9.30 ...	3.30	Standard resumed five hours forty-five minutes after having taken the wine.
	NOON.		
3	12.0 ...	3.90	
	12.30 ...	3.60	Five minutes after taking $\frac{1}{2}$ of diluted alcohol.
	12.50 ...	3.45	Five minutes after taking $\frac{1}{2}$ " "
	1.20 ...	3.40	Five minutes after taking $\frac{1}{2}$ more.
	2.15 ...	3.35	
	2.45 ...	3.30	This shows that even in small and divided doses, which have been supposed to insure the stimulating effects of alcohol, it still acts by diminishing the quantity of carbonic acid.

We desire that the marked effect "*almost instantaneously*" produced by small doses of alcohol, reducing the exhaled carbonic acid by one-fourth, be specially noted, and also the prolonged depression (nearly six hours) which attended what would

be regarded as a very moderate quantity of wine. The *depressing* effect of small and repeated doses Dr. Prout has pointed out, and it is very noteworthy.

In the "Annals of Philosophy" for 1814, Dr. Prout presents a second paper in continuance of this subject, in which he mentions with special satisfaction that Dr. Andrew Fyfe, of Edinburgh, had been prosecuting the same inquiry, which he had just made the subject of his inaugural Thesis.* A reference which has to us a special interest, inasmuch as we had the happiness of receiving our first professional tuition from that estimable man, of whom we retain most grateful remembrances, and it seems to supply a living link of connection with the distinguished Prout and his important research. Dr. Fyfe had followed very much the same lines of inquiry as Dr. Prout. Wine, he found, reduced the quantity of carbonic acid from 8.5 per cent., which he had found to be his standard quantity, in one experiment to between 2 and 3 per cent., and in another to 5.75 per cent. He found also that on the *day after* a much greater quantity of wine than usual was taken, the quantity of carbonic acid by repeated experiments was as low as above stated; with less wine the quantity was considerably reduced, though not so much as before.

In a paper on the Phenomena of Sanguification, in the same work for 1819, Dr. Prout refers to his own and Dr. Fyfe's researches, and in a *resumé* of the causes which depress the elicitation of carbonic acid, he says, "The greatest decrease experienced was from the use of alcohol and vinous liquors in general, especially when taken upon an empty stomach. In short, *whatever diminishes the powers of life*, as low diet, &c., &c., appears, from Dr. Fyfe's experiments as well as my own, to have the effect of diminishing the quantity."

With great reluctance we must leave our readers to draw their own inferences from this wonderful revelation of the secret doings of alcohol. But we are most unwilling to part with this interpreter of nature, this guide, philosopher and friend, without a shout of triumph over such testimony, from such a witness, on such a subject. Has the stern logic of truth ever read such a lesson to men and the times we live in?—That alcohol in all its forms is always, and under all conditions, a depressor of vital energy; that its vaunted power as a vital stimulant is a mockery, a delusion, and a snare. But we must forbear, and hasten to gather up some additional evidence—some of it from most

* "Dissertatio Chemico-Physiologica Inauguralis de copia acidi carbonici e Pulmonibus inter respirandum evoluti." Auctore, Andrea Fyfe, Jun., Edinburgi. MDCCCXIV.

unwilling witnesses—to complete, as we may be able, the grand superstructure, of which the foundation has been so nobly laid by William Prout.

Nearly thirty years elapsed before this important inquiry was resumed; but the classical work on Respiration, by Vierordt (Carlsruhe, 1845), was worth waiting for. It represents a most extensive research, embracing numerous series of experiments on his own person, 600 in number, and extending over a period of fifteen months. In a few words Vierordt condenses the results of his experiments on the action of alcohol. He says, “As Prout” (and Fyfe, we must add) “has already, I, also, have found a considerable decrease in the elimination of carbonic acid after the use of spirituous liquors. The mean of four observations showed that the carbonic acid fell after taking from one-half to a bottle of wine very quickly (*schr schnell*) from 4.54 per cent. to 4.01, and retained through one to two hours the latter value. Thus the absolute amount of carbonic acid is remarkably lessened, viz., by about one-eighth. This influence shows itself during digestion, as the elimination of carbonic acid after meals taken with wine is far less energetic than after meals without wine. Digestion is delayed when spirituous liquids are taken with the meals.” He further remarks, “Prout, of whose excellent observations I could hardly dispute a single one in the long succession of my experiments, points to this—that lively agitations of the mind cause an increase of carbonic acid.”

The late Dr. Carpenter did not contribute any new observations on this subject; but he was deeply interested in the alcohol controversy. On our present subject he says (writing in 1858): “*That the presence of alcohol in the circulating current does interfere with the processes to which the function of respiration is normally subservient*, appears from the fact, which has been verified by many observers, that its introduction almost immediately causes the *arterial* blood to present the *venous* aspect.” And again, “The introduction of alcohol into the blood has the effect (as has been determined by the careful and repeated experiments of Drs. Prout and Vierordt) of occasioning a considerable diminution in the percentage of carbonic acid in the expired air.” Of the inevitable and very serious consequences which must attend this restrained respiratory action, Dr. Carpenter speaks very forcibly. He says, “As the channel by which decomposing organic matter in the blood is chiefly eliminated is the respiratory process, it will follow that anything which interferes with that process will most powerfully favour the action of zymotic poisons on the body; and if there be anything certain in medicine it is the fact that deficient aëration of the blood, by whatever cause induced, does exert such an influence. Further, it may be stated with confidence, that

the tendency of the habitual use of alcoholic liquors is to induce a state of the blood exactly resembling (so far as this point is concerned) that which is brought about by imperfect ventilation, bad sewerage, noxious emanations, &c., namely, to contaminate it with the refuse generated in the body itself, whose due elimination is checked no less effectually by the presence of alcohol in the circulating current, than it is by constantly shutting up the doors and windows of our apartments, or by heaping together a mass of putrefying rubbish in our cellars, or by damming up our sewers and causing them to overflow into our kitchens, or by any other similarly approved means of causing the fever-germs (and a great many germs besides fever-germs are now recognised) to take root and flourish in our systems."

In 1849, MM. Hervier and St. Layer presented to the French Academy of Sciences,* an exhaustive and valuable memoir on the Exhalation of Carbonic Acid in Health and Disease, or rather under Physiological and Pathological conditions. Among many most interesting and most important deductions is the statement that the use of alcoholic drinks diminishes the carbonic acid exhaled, and also that the inhalation of ether and chloroform produces the same effect. It is further stated that the air expired by young persons contains a larger proportion of carbonic acid than that exhaled by adults. In connection with this last observation we submit the statement of Scharling—that, for equal weights, children of nine and ten years of age exhale nearly double as much carbonic acid as adults. We can thus explain the greatly intensified effects of alcohol upon young persons.

The more recent observations of Böcker, (Bonn, 1854), confirm the previous evidence of the effects of spirituous and fermented liquors in impeding the proper functions of the lungs in eliminating carbonaceous matter from the blood. His researches were made with great care, and were conducted through upwards of sixty experiments upon his own person. He lived as usual, and seven or eight times a day took a teaspoonful of spirits of wine. This was continued for six days in succession.

The effects of wine were also subjected to observation. From $1\frac{1}{2}$ to $2\frac{1}{2}$ bottles daily of a white Rhenish wine (the Niersteiner), or a red wine, from the Burgundy grape (the Walportzheimer), were taken along with or during food. In both cases there was a diminution of the carbonic acid expired. The alcohol diminished not only the absolute quantity of carbonic acid exhaled by the lungs, but also the relative proportion of it in the products of respiration, and the augmentation which accompanies the period of digestion was materially lessened. Böcker calculates that

* *Gazette des Hopitaux*, February 20, 1849.

when using alcohol he excreted daily 165·744 cubic centimetres less than his ordinary quantity, and he proved that the want of action in the lungs was not compensated by any increased action in the intestinal canal or the skin.

Böcker extended his observations to the action of beer, the effects of which on the respiration were found to be the same as those of pure spirit. After fourteen days' use of four or five pints daily of German beer, one-third the strength of Bass, he examined the condition of the blood, and he reports some interesting particulars. He especially notices a much increased proportion of the pale unnucleated globules, and these, Böcker (along with Virchow and Moleschott) holds to be defunct bodies, no longer capable of absorbing oxygen, and he infers that this increase of solid matter in the blood in beer-drinkers is no evidence of increased vital powers, but merely a retention of partially effete materials.

Dr. Hammond published his Physiologico-Chemical researches in the "*American Journal of Medical Sciences*," for 1836. His experiments embraced a wide range, both as to the materials submitted to experiment, and the effects produced on all the various excretory functions of the body. But we limit our references to the influence of alcohol on the elimination of carbonic acid.

Dr. H. experimented also on himself—1st, with the supply of food so adjusted as to maintain the weight of the body; 2nd, with deficient food supply, so adjusted as to secure loss of weight; and 3rd, with excessive food, so as to secure an increase of weight. Under each of these conditions he took an average, carefully determining the quantities of all the excretions, of five days, first without alcohol, and then with the addition of half an ounce of alcohol to each of his three meals—viz., at seven, one, and five; the observations on the respiration being made at nine, two, and ten.

In the 1st case, with food sufficient to maintain the weight of the body under alcohol, the average diminution of carbonic acid was from 11,674 grains to 10,344 grains, equal to 1,330 grains per day.

In the 2nd case, with deficient food, the diminution with alcohol was from 10,774 grains to 9,945, equal to 729 grains.

In the third case, with excessive food, the diminution was from 12,159 to 11,577, equal to 581 grains.

Dr. Hammond reports that the effect of the alcohol on the diminution of the carbonic acid was constant and unvarying.

Dr. H. was pre-occupied with the theory, of which he was an enthusiastic advocate, that diminution of excreta was evidence of diminished waste, and a "saving of tissue," and we are losers by the

times unfortunately chosen to make the observations—viz., two, one, and five hours after the administration of the alcohol. All the truth, therefore, regarding the influence of this strange agent has not been disclosed by this experimenter; but we shall take what he gives us.

Dr. Hammond's account of his experiences under these three conditions are worth noting. Under the 1st (with alcohol) he reports:—"My general health somewhat disturbed; pulse increased from 81 to 90; headache, and increased heat of skin. Mental faculties were certainly not so clear as on abstinence days; general lassitude, and indisposition to exertion of any kind."

Under the 2nd the report with alcohol is: "General condition never better, pulse *down* (to 83! from 88 without alcohol), no headache, intellect clear, and normal energy, all functions regular and satisfactory."

Under the third, Dr. H. reports (1st, without alcohol) "health much disturbed, headache almost constant, pulse 92, full, sleeplessness, unpleasant dreams; (2nd, with alcohol) healthy action very much disturbed, headache constant, sleep disturbed, skin hot, pulse 98, full and bounding, palpitation, severe illness threatening, diarrhœa of considerable violence occurred lasting forty-eight hours."

Dr. Edward Smith is the next investigator who undertook (in 1859) to prosecute this important research. His observations are most elaborate; they were sustained for two years, and extend to 2,000 experiments, performed on himself and a friend. The results have been most widely circulated through many channels, and much attention and a too-general credence has been accorded to the inconsistent and most inconclusive conclusions presented.

Dr. Smith's deductions as to the action of alcohol on the respiration are not consistent with those of the scientific observers of the highest reputation who preceded him in this inquiry, nor with those of others who followed after, which we shall by-and-by adduce. But we think it will be possible to show, notwithstanding Dr. Smith's very confident assurance to the contrary, that in several respects his conclusions are altogether untrustworthy. We think also it will appear that he greatly overestimated the accuracy and value of his conclusions.

The effects of alcohols which Dr. Smith regards as a class of agents having among themselves fundamentally different, even antagonistic, actions, are thus summarised:—

1. The direct action of pure *alcohol* does much more to increase than to lessen the respiratory changes, and when the quantity is sufficient to act upon the sensorium the influence is chiefly a *disturbing* one.

2. Brandy and gin, particularly the latter, always lessened and sometimes caused great depression of the respiratory changes.

3. Whisky commonly lessened them, but sometimes it increased them.

4. Rum increased them almost always and to a greater extent than alcohol alone.

5. The vapour of all spirits, pure alcohol, gin and rum, and wines, when inhaled, lessened, in the course of ten or fifteen minutes, the quantity of carbonic acid exhaled, and usually lessened the quantity of air inspired, but increased the quantity of watery vapour exhaled from the lungs. The vapour of fine old port had the same influence but in a greater degree. This result was without one exception.

We have seen that the experiments of Prout and Fyfe, Vierordt and Böcker, were performed under the various conditions which enable their effects to be fairly and usefully compared with those which attend the use of alcoholic liquors in any of the ordinary, though sufficiently varied, circumstances in which they are employed. But Dr. Smith believed that he greatly enhanced the value of his results by performing his experiments under conditions which are as exceptional and peculiar and as far removed from the normal circumstances under which alcohol is used as can well be imagined. Thus, for instance, he chose the early morning hours from seven to nine o'clock for taking the tremendous dose of alcohol ($1\frac{1}{2}$ to 2 ozs. diluted with water), and this on an empty stomach; next, he maintained, throughout the experiment, body and mind in a state of perfect quietude and rest; and lastly, he limited the observation of the effects to two hours. Dr. Smith fixed on the early hour on the assumption that the body was then in the most sensitive and vigorous condition, and best fitted for testing the physiological action of alcohol. Popular experience gives a very different estimate of the effects of the morning dram even when limited to half the quantity taken by Dr. Smith and his friend. From the narrative of their sensations we may well be allowed to question their capability to give a true record of observations requiring so much care and acumen. Thus Dr. Smith reports, "lessened consciousness occurred in from three to seven minutes, and, as it increased, the power of fixing the attention was lessened, the perception of light, and we believe of sound also, was lessened; my friend whose countenance I could watch, had a flushed face and streaming eyes, and was very hilarious in about ten minutes, and for about fifty minutes seemed as happy as a king, but gradually we felt both less happy, and became less talkative, our excitement subsiding by degrees until we became quite taciturn, and felt extremely miserable; a condition of

intense depression, with muscular relaxation, was realised; he was nearly unconscious; there was a sense of impeded respiration, it was panting and gasping; coldness of the feet and general chilliness even to shivering, and diminished frequency in respiration and pulsation. Then we felt the horrors and the sorrows, as we had experienced the so-called pleasures, of the drunkard's lot; the duration of the effects varied with the different alcohols from 46 to 120 minutes." The description concludes, "It must be remarked that the last power to be regained was that of consciousness." We ask earnestly, is it the conclusion of a sober mind in view of these effects of alcohol that the experimenter is using an agent which can augment or increase any of the vital functions, or can be anything else than a depressor of vital action? and we further ask, are we not fully justified in absolutely ignoring the conclusions of Dr. Smith in reference to the variation in the action of alcohol? He stands alone among the distinguished scientists who have with the greatest ability and care prosecuted this inquiry, in maintaining an essential difference in the various alcoholic liquors, and in maintaining that any form of alcohol augments the exhalation of carbonic acid from the lungs.

We make no remarks on the strange hypothesis which underlies Dr. Smith's entire research, viz., the classification of alimentary materials into *excito-respiratory foods* and *non-excito-respiratory foods*. It seems to belong to the same department of science as the famous theorising of Liebig, and strangely enough it seems to have proved nearly as captivating to a large section of the profession.

Dr. Smith would have done well if he had simply accepted Dr. Prout's judicious conclusion from his observations, that "the effects observed from food have not been remarkable." A sound Physiology, even in Dr. Smith's day, might have told him that the carbonic acid eliminated within two hours of taking food had no connection whatever with the food-value of the materials so recently taken, and might thus have saved him all the labour, including "the horrors and sorrows" involved in his most heroic research.

Dr. Smith, however, has left on record, in the "Philosophical Transactions," his claim to two positive results of his great and laborious inquiry, to which we by no means dispute his right, viz., "*that alcohol is the great disturber of the system,*" and "*that men differ in every subject which has been investigated.*"

M. Perrin, of Paris, Professor at Val de Grace, published in 1864, a valuable contribution to this inquiry* which had

* "De l'Influence du Boissons Alcooliques prises à doses modérées sur la Nutrition. Recherches Experimentales." *Gazette Hebdomadaire de Médecine et de Chirurgie*, 1864.

been presented to the Academy of Sciences. The entire essay would well repay translation, but we must be content to present some only of the facts and conclusions. White and red wines of various alcoholic power, which was in all cases accurately determined; pale ale and Strasbourg beer, and "groggs," or simple diluted alcohol, were submitted to experiment. The drinks were limited to strictly hygienic doses so as not to disturb the stomach or brain, an important precaution, and were taken to *déjeuner* at 10.30 a.m. The observations were begun at 12.30, and continued till 5.30, six records being made during that time.

A rich white wine (Chablis) of 11 per cent. alcohol					
determined a diminution of carbonic acid of ...					
					22.44 per cent.
A very light white wine of 6 per cent. alcohol, a					
diminution of					
					11.43 „
A light red wine of 9 per cent. alcohol, a diminu-					
tion of					
					20.00 „
Strasbourg beer, a diminution of					
					17.71 „

In general the diminution of carbonic acid has been in direct relation to the alcoholic richness of the liquor employed, but as a *contre preuve*, M. Perrin tried simple diluted alcohol "groggs," with the following result:—

90 grammes of diluted alcohol of 45°, according to the alcoolimetre of Gay Lussac, determined a diminution of carbonic acid of 11.00 per cent.

These observations are quoted by Dr. Parkes in his "Practical Hygiene," as proving a very great diminution in the exhalation of carbonic acid when alcohol is present in the system, and we gratefully accept the facts which have been so carefully established by M. Perrin. Unfortunately, for purely hypothetical reasons and evidently to support a pre-conceived theory like Dr. Hammond, M. Perrin did not commence his observations till two hours had elapsed from the imbibition of the alcohol. The value of the observations would have been much enhanced had M. Perrin followed Dr. Prout in instituting his observations immediately after partaking of the liquor. We should then have had the opportunity of learning M. Perrin's explanation of the *almost instantaneous* (the *sehr schnell*) action so emphatically remarked upon by Prout and Vierordt. It would have been interesting also had he followed Dr. Fyfe in making observations on the day following that on which a somewhat large dose of alcohol had been taken.

From M. Perrin's conclusions we present the following:—

1. Taken in moderate doses, and under the usual conditions, which may be regarded as hygienic, these drinks have for their constant effect the diminution of the quantity of carbonic acid

exhaled by the lungs. This diminution, which progresses during the three first hours which follow the ingestion, varies from 5 to 22 per cent., according to their respective alcoholic strengths.

2. When the production of carbonic acid diminishes, as it does steadily during the first three hours after a repast in which alcohol has been taken, the volume of air expired diminishes also, but in a less marked degree, and not with the same regularity.

Dr. Richardson, in his Cantor Lectures on Alcohol, 1875, adduces his own observations on the diminution of carbonic acid exhaled by the breath, under the action of alcohol. He says, "In the extreme stage of alcoholic insensibility—short of the actually dangerous—the amount of carbonic acid exhaled by the animal, and given off into the chamber I constructed for the purposes of observation, was reduced to one-third below the natural standard. On the human subject in this stage of insensibility the quantity of carbonic acid exhaled has not been measured. But in the earlier stage of alcoholic derangement of function the exhaled gas was measured with much care by a very earnest worker, Dr. Edward Smith. In these early stages Dr. Smith found that the amount of carbonic acid was reduced in man, as I have found it in the lower animals, so that the fact of the general reduction may be considered as established beyond disputation."

Lehmann, in his valuable work, has recognised the great practical importance of the investigations bearing on the various conditions which influence the elimination of carbonic acid. Of the effects of different diseases, in their influence on the respiratory products, and the various results deducible from the numerous experimental researches in connection with the phenomena of respiration, no better or more enlightened account can be found than is given in the third volume of his "Physiological Chemistry" (pp. 376-382).

Lehmann mentions some original observations of his own, and he had himself proved by experiment the diminution, both absolutely and relatively, of the exhaled carbonic acid after the moderate use of spirituous liquids, which, he observes, confirmed the observations of Prout and Vierordt on the subject. In his remarks on this influence of alcohol on the respiration, he says: "We cannot believe that alcohol belongs to that class of substances which is capable of contributing towards the maintenance of the vital functions." Lehmann takes a wide grasp and sound philosophical view of the subject, and presents some most valuable reflections in the direction of applying this knowledge to important practical purposes in the treatment of disease. We offer no apology for presenting them here. He says:—"The value of investigations on normal respiration in reference to the science of medicine can never be over-rated: for when once the

fact is universally admitted, that the great thing to be considered in many diseases is to furnish a copious supply of oxygen to the blood, which has been loaded with imperfectly decomposed substances, and to remove as speedily as possible the carbonic acid which has accumulated in it, these observations will have afforded us true remedial agents, which exceed almost any other in the certainty of their action. We may thus aid a tuberculous patient quite as much by recommending him to respire a *moist*, warm air, as if we prescribed *Lichen Carragheen*, or *Ol. Fecoris Aselli*. Instead of tormenting our emphysematous patient, suffering from congestion and hæmorrhoidal tendencies, with aperients and saline mineral waters, we might relieve him far more effectively by recommending him to practise artificial expansion of the chest in respiration (filling the lungs several times in the course of an hour), or take such exercise as is fitted to produce this result; while we should forbid (in this and many other cases) the use of spirituous drinks, and not prescribe tinctures which hinder the necessary excretion of carbonic acid. We abstain, however, from offering any further illustration of these doctrines, since the reflecting physician will not blindly follow any guide, while the mere empiricist can never learn thoroughly to heal any disease, whatever may be his knowledge of physiology and pathological chemistry."

We have now presented a sufficiently extensive and conclusive body of evidence for the establishment of the great fact that, under all circumstances and under all conditions, the introduction of alcohol into the system diminishes the products of respiration. To convey to the unprofessional reader an adequate conception of the terrible significance of this interference with this most essential of all the vital functions, would require such detailed discussion of the elementary principles of physiological science as would be impossible within our limits. To these we would, therefore, very earnestly suggest the careful study of the respiratory function, which may be accomplished with the aid of those excellent text-books on physiology which are now within the reach of all, and where the value of oxygen as a life-sustainer, and the power and danger of carbonic acid as a life-depressor, are fully set forth. This study will be the more profitable, and the more attractive, the more extensively it is prosecuted, and the whole truth which concerns the science of life and of living wisely and well, will abundantly reward the student in the pursuit of such knowledge.

For the present we must be content in few words to indicate to our medical brethren some of the many weighty truths which are brought to the surface in this research. There we find truth overflowing and abundant, truth profitable for doctrine, for reproof, for correction, for instruction. It is a veritable Scripture,

written, we say it with reverence, by the finger of God in the hidden recesses and secret places of vital phenomena, and revealed and read to us, by these painstaking interpreters of His works and ways of working, and to be read by all those (if they will know His will in this matter) who take pleasure therein.

True doctrine and sound instruction on the nature and action of alcohol are required that we may protect ourselves, individually, socially, nationally, from the dangers of which it is the prolific cause. Reproof and correction are needed, scathing as the truth of God can make them, for the exposure of the many plausible pretences, which are current and fostered, under the cloak of interest and prejudice, as to the innocency and benignancy of this deceitful spirit, this enemy of the human race.

One important consideration we must not omit to state, viz., that all this accumulation of evidence as to the deportment of alcohol, comes, at the cost of much personal labour, from men of science, with no prejudices against vinous or other alcoholic liquors, many of them with strong and decided prejudices in their favour. And what have they discovered for us?

1. What alcohol is in its action on the body—

- a. That it is always a depressor of the vital functions.
- b. That its effects are immediately and directly depressant without any previous stage of excitement.
- c. That it deports itself as poisons are known to operate.
- d. That the phenomena of alcoholic intoxication are largely influenced and determined by the detained carbonic acid, caused by alcohol.

2. What alcohol is not—

- a. That it is not a stimulant of any of the vital functions.
- b. That it is not a food, accessory or otherwise; it acts by depressing the respiration "*almost instantaneously*," "*sehr schnell*," and before any modification of, or influence on, the tissue changes is possible.

No more important practical lesson can be drawn from these researches than a sound principle of guidance as to the true and proper place which alcohol ought to hold as a therapeutic agent, and if any deduction can be more direct and conclusive than another, or more inevitable, it is this, that when exalted sensibility or vital activity require to be repressed—when a vital stimulus is contra-indicated—when the detention of the products of vital changes in the system is to be desired and by all means secured—then the physician guided by science will find his most powerful resource in alcohol!

To complete the picture of the doings of alcohol in this hidden sphere of its operations, the examination of other facts in its history will be necessary.

In tracing its action in the system the characteristic physical properties of alcohol claim attention: its low specific gravity, and low boiling point; its extreme volatility, its perfect and singular diffusibility in the animal fluids, its solvent power over, and capacity for adhering to, the living tissues. Then must be traced the influence of this peculiar agent on the chemical constitution and vital properties of the blood; its influence on the temperature of the body and on the processes of the nutrition and metamorphosis of the tissues, determining as it is known to do an infinity of morbid degenerative changes in these. On all these subjects a large amount of most valuable material has been accumulated, and only waits to be effectively utilised to supply light and leading on this most perplexing and momentous question.

We regard the depressant action of Alcohol on the Respiration as the starting point, the prime fact in a great series of most important consequences, which attend upon its introduction into the living system, the full significance of which will not be realised till they are viewed as a whole, and in their true relations one with another.



THE USE OF ALCOHOL IN HOSPITALS.*

By C. R. DRYSDALE, M.D., *Senior Physician Metropolitan Free Hospital.*

THE distillation of alcohol was first discovered in the eleventh century, but it seems to have taken a long time before spirits were allowed to be sold by any shopkeepers except apothecaries; for it was only in 1744 that we hear of many of the shops in London selling spirits. We need not be surprised, therefore, that the question whether alcohol is a desirable article of daily *regime* is unsettled, since 150 years is a very short time for the discussion of such a vital question as this. Although, therefore, many excellent protests against the indiscriminate use of brandy were published before 1852, when Dr. Magnus Huss, of Stockholm, Professor of Medicine in that city, wrote his celebrated work on *Alcoholismus Chronicus*, this may be said to be the work that first

* Read at a meeting of the British Medical Temperance Association, February 23, 1886.

of all clearly indicated the enormous damage done to the internal organs by the prolonged use of alcohol. Huss used the expression *Alcoholismus* to express his conviction that alcohol, like lead, ergot of rye, and other poisons, produced a definite set of changes in the human economy, causing fatty degeneration and inflammation of the viscera, such as the brain, liver, stomach, heart and lungs and kidneys. He showed that brandy drinking often produced laryngitis, bronchitis, and pneumonia, and pleurisy, besides nephritis and cirrhosis of the liver; but the main body of his work went to explain the numerous diseases of the brain and nervous system caused by alcohol.

About this time arose into fame the most celebrated of modern chemists, Dr. Justus von Liebig—to whom, in my opinion, are due the theories which led aside many of our greatest physicians from the modest path of clinical observation of remedies into the dangerous one of *à priori* hypotheses as to the nature of alcohol as a food. Liebig wrote his most fascinating work entitled, "Familiar Letters on Chemistry," in 1856, and in this he classes alcohol for the first time among the respiratory foods. "Of all respiratory matters," he says, "alcohol acts most rapidly." And then proceeding from his hypotheses to search for a corroboration in nature, he exclaims, "In no part of Germany do the apothecaries' establishments bring so low a price as in the rich cities of the Rhine, for there wine is the universal medicine of the healthy, as well as of the sick; it is considered as milk for the aged." "Alcohol," he says again, "stands only second to fat as a respiratory material." Then again, leaving his chemical hypothesis, he appeals to common experience, and narrates how that the servants of teetotalers in England were at first given money to make up for the loss of their beer, but that it was found they cost more in food than the difference in their wages. Liebig also tells us that when the friends of Peace, whom he describes as mostly teetotalers, assembled at Frankfort, the innkeeper where they dined observed that there was a quite unusual consumption of puddings and other starchy foods, which Liebig attributed to the omission of wine by the guests. Another account for this phenomenon might be that the teetotalers had better appetites and healthier stomachs than the drinkers, but Liebig had his hypothesis, and this was confirmed by such facts as these. Curiously enough, however, he adds further on, "As in the case of plants and animals so in man, the food should be of an indifferent character; it should exert neither a chemical nor peculiar action on the human frame by which its normal functions are either excited or retarded. From this point of view the use of wine is quite superfluous to man, for even though it be not always

injurious to health, yet it is constantly followed by the expenditure of power." Liebig then paradoxically tells us that misery is not to be attributed to the use of alcohol; it is misery which makes the tired labourer drink. Necessity compels him to have recourse to spirits to rapidly restore his strength. How can we reconcile these divergent opinions of the illustrious chemist? Only, I think, by remembering that he was a chemist, not a clinical physician.

Unluckily, one of the most distinguished of our modern London physicians, Dr. Bentley Todd, seems to have implicitly believed the allegations of Liebig, and to have forgotten the numerous diseases caused by the immoderate use of spirits. That gentleman published his work entitled "*Chemical Lectures on certain Acute Diseases*," in the year 1860, and then first of all laid down distinctly the doctrine that alcohol, being a very digestible kind of food, should be used in fevers and other acute diseases. In page 438 he addresses his students in the character of a "heretical" innovator in treating diseases, which had up to that time been treated by bleeding and antiphlogistics, by means of large quantities of alcohol. "Alcohol," he remarks, "is immediately taken up by the veins of the stomach and conveyed at once into the blood:" and, he alleges that inflammation of internal organs is not caused by the use of alcohol. "Alcohol absorbed into the blood (he says), will not excite inflammation of lungs, the heart, the liver, or the kidneys. Cirrhosis of the liver is an atrophy (says Todd) not an inflammatory disease of that organ." Hence the conclusion, that practitioners may disregard the popular prejudice, that alcohol causes inflammation, and, therefore, ought not to be given in inflammation as a calorifacient form of food; he says that, as a promoter of the nutrition of the nervous system, and as admitting of easy and quick absorption into the blood, alcohol possesses a combination of qualities which render it of the utmost value in the treatment of disease. For this reason he gave a precise dose of alcohol at brief intervals from two to sixteen drachms diluted. He enthusiastically extols alcohol as a "gift of God to man;" and argues from the fact that most nations, however backward in civilisation, have discovered the way to make some form of alcoholic drink, that there is an instinct in the race for such a food. Alcohol should be used in all depressing diseases, and all acute diseases depress, hence it should be used in all. That Dr. Todd carried out his views into practice will be seen by the following examples:—A boy, aged seventeen, took twelve ounces of brandy per diem, in typhoid fever. Cases of acute bronchitis were treated sometimes with half an ounce of brandy every half hour. Cases of delirium tremens were treated in the same way, as were cases of epileptic

delirium. It is far more dangerous (says Dr. Todd, p. 484), to diminish or withdraw alcohol than to give too much. In one of the cases reported, John Gavin, who had typhus fever, the patient took five drachms of brandy every half hour, *i.e.*, thirty ounces per diem. To another, a girl, Lely Wood, aged fourteen, with heart disease, $1\frac{1}{2}$ ounces of brandy were given every hour for three days together. Dr. Todd, however, gave no alcohol in many of his typhoid fever cases.

The same year, 1860, when Dr. Todd's lectures were published, saw the issue of a work entitled "*Du rôle de l'Alcool et des Anesthésiques dans l'organisme*," by three gentlemen, MM. Lallemand, Perrin, and Duroy, the two first professors in the military college of Paris, and the third a member of the Society of Pharmacy of that city. In that work, the authors group alcohol in the class of the anæsthetics, with ether, chloroform, &c. These agents, they say, act first of all on the nerve centres, and are found in their natural condition in the brain, not undergoing any modification in the animal economy, but being eliminated, unchanged, after a shorter or longer sojourn in the tissues. Lehmann had previously shown that after the injection of a moderate amount of alcohol, the excretion of carbonic acid diminishes. Dumeril and Richardson had also shown that when large doses of alcohol were given to animals the temperature fell as much as from 2.5° to 9.6° C. two or three hours after the dose was administered. The French experimenters entirely objected to Liebig's allegation that alcohol is a food, or that it turns into aldehyde, acetic acid, and finally into carbonic acid and water in the tissues.

A dog weighing 54 pounds had 12 grammes of alcohol at 21 degrees administered to it, twice in the course of half an hour. The French experimenters distilled 5 decigrammes of concentrated alcohol from its blood after death. They also distilled the broken-up pulp of the brain of dogs to which large doses of alcohol had been given, and in one experiment obtained 3 grammes 25 centigrammes of concentrated alcohol in the distillate. They then passed the breath of persons who had taken alcohol through a solution of bichromate of potash in sulphuric acid and found alcohol given off from the lungs in the course of an hour; two grammes of alcohol were also distilled from the urine (three litres) of four men who had taken 3 bottles of Bordeaux wine. They found no aldehyde either in the blood or in the tissues of animals that had taken alcohol, and also that the elimination of alcohol continued for twelve hours. They thus concluded:—

1. Alcohol is not a food.
2. It is a special modifier of the nervous system, acting in small doses as an excitant, and in large doses as a stupefiant.
3. Alcohol is neither transformed nor

destroyed in the organism. 4. It accumulates by a sort of elective affinity in the brain and in the liver. 5. Alcohol is eliminated from the organism entirely, and as it entered, by the lungs, the skin, and especially by the urine. 6. Alcohol has a direct action in producing diseases by various functional and organic disturbances of the brain, the liver, and the kidneys.

The experiments made by Lallemand, Perrin, and Duroy, soon led to others, made by Dr. Anstie of London, and Dr. Binz, of Bonn, both of these gentlemen refusing to accept the conclusions drawn by the French experimenters. Anstie was of opinion that only a very small portion of the alcohol taken into the body remained unburnt, and he alleged that the vast mass of it was turned into carbonic acid and water. Dr. Edmund Parkes, in 1870, aided by Count Cyprian Wollowicz, assistant surgeon at Netley, made some experiments on a healthy man with alcohol, brandy, and claret. The man, who was very healthy, was for eight days left without any alcoholic fluid, and then for six days, he added to this one fluid ounce of rectified spirits on the first day, two on the second, four on the third, and eight on the fifth and sixth days. He then returned to water for six days, and after that took for three days half a bottle (12 ounces) of brandy containing 48 per cent. of alcohol. Then for three days he returned to alcohol. The temperature of the body was hardly at all affected by the amount of alcohol taken; but the pulse was decidedly quicker when brandy and alcohol were used from 73·57 to 88·5 beats per minute before and after alcohol was given. Parkes admitted that Anstie and Dupré had proved that only a small percentage of alcohol taken can be recovered from the bodies of animals or the excreta. Parkes confined himself to qualitative observations which, as far as they went, he said, confirmed the results arrived at by Lallemand, Perrin, and Duroy, and Edward Smith. Parkes found that in the man experimented on, one or two fluid ounces of alcohol in the twenty-four hours increased the appetite, whilst larger quantities diminished it greatly. The heart during the alcoholic period did a day's work in excess equivalent to lifting 15·8 tons one foot high. The heat being neither increased nor diminished renders it unlikely that alcohol is of service as a food or as a lowerer of the temperature in fevers. Parkes while impressed with the value of alcohol in raising a failing appetite, or exciting a feeble heart, was convinced of the necessity of using great caution. He was hardly prepared, he says, for the ease with which appetite may be destroyed, the heart unduly excited, and the capillary circulation unduly increased. The same man subsequently took 10 fluid ounces of red Bordeaux wine at dinner for five days, and then 20 ounces for five days. The general results of the experiment were in all respects similar

to those when alcohol and brandy were used; the ten ounces of claret contained about one fluid ounce of alcohol. When he took twenty ounces of claret he felt uncomfortable.

In a discussion which arose in London in 1883 on the economy of public hospitals, some difficulty was found at getting information as to the actual amount of alcohol given at the various hospitals, and Dr. D. Burns accordingly communicated with the secretaries of various hospitals to receive information on this question. It turned out that some important infirmaries gave no alcohol, except as a medicine. The Manchester Royal Infirmary had this rule, as also the Westminster Hospital, and the Hull General Infirmary. The London Temperance Hospital had made the experiment of treating almost all its in-patients without alcohol, viz., 2,200 in-patients treated up to February 29, 1884. The medical officers of that hospital were of opinion that the exclusion of alcohol from the ordinary diet of the hospital, and from the pharmacy, had been of great service to the patients. On the other hand St. Bartholomew's Hospital from 1860 to 1867 had increased its expenditure on alcohol at least four-fold, according to Mr. Skey. In 1848 there were 550 patients in that hospital and three pipes of wine were annually consumed; in 1860, thirteen pipes were taken by the hospital patients. This state of matters continued unchanged until about the year 1871, when a reaction began to set in, many of the lay journals beginning to charge medical men with inciting their patients to drink. Whilst this charge was being investigated it appeared from the evidence of Dr. Gairdner, of Glasgow, that the mortality in the Glasgow Fever Hospital was greatly lower than that in King's College, London, under the treatment of Dr. Todd, which latter was given at 25 per cent., whilst Gairdner, who used alcohol with extreme caution, and usually not at all, had a mortality of less than twelve. The foundation by Dr. Ridge, of Enfield, of the British Medical Temperance Society in 1876, under the able presidency of Dr. James Edmunds, long an ardent advocate of abstinence from alcohol, did much to influence medical opinion, and when the presidency of that society was assumed by the greatest English authority on Hygiene, Dr. B. W. Richardson, the change of conviction was still more evident from the records of hospital practice. Even previous to this, however, a strong declaration as to the non-adviseability of the use of alcohol in health had been attested in 1877 by some 250 hospital physicians and surgeons. It was framed by Dr. E. Parkes, Mr. E. Hart, and Mr. R. Rae.

Dr. Norman Kerr made an inquiry into the practice of work-houses with regard to the giving of alcoholic beverages to the inmates, which has been of the greatest service in calling attention to the absurd discrepancies between the routine customs in

these charitable institutions in different parts of the United Kingdom. Many of our large hospitals have already begun to abandon the theory of Liebig, Todd, and Skey, and have returned to the same, or even less expenditure on alcohol, than they used to sanction before 1860. Besides this there is a small minority of able and convinced practitioners, who are as firm in their opposition to the use of alcohol, even in disease, as Dr. Todd was in his belief in its efficacy. Hence, we are gradually having the question of the therapeutic value of this fluid fairly argued out. One of the most thorough opponents of excessive alcoholic medication, Dr. Charles Hare, (*British Medical Journal* 1883) speaks of the mania for prescribing alcohol, against which he had often protested with all his energies. He mentions that some twenty-five years ago he was considered most unorthodox, because he would not give way to what he calls that "alcohol craze," and adds: "I always preached against the foolish, and I would almost say, wicked, use of alcohol that was common some years ago." Dr. Hare obtained a return from the following Metropolitan Clinical Hospitals:—St. Bartholomew's, Guy's, London, Middlesex, St. George's, St. Mary's, St. Thomas's, University College, and Westminster, from which it will be seen that there was a rapid increase in the use of alcoholic fluids between 1852 and 1862; and indeed up to 1872 in many cases. For example, the cost of wine, spirits, and beer in Bartholomew's being in 1852, £929, it rose to £1,938 in 1862, and was still higher in 1872, £2,198; but in 1882 it fell again to £1,339. In 1852 University College Hospital expended £266 in alcohol; in 1862, £548; in 1872, £636; and in 1882, £464. Westminster Hospital in 1852 spent £368 on alcohol; in 1862, £639; in 1872, £543; and in 1882, £207 or less than it did in 1852. Milk is gradually taking the place of alcohol in our metropolitan clinical hospitals: thus Bartholomew's spent £684 for milk in 1852; £966 in 1862; £1,214 in 1872; and £2,012 in 1882. St George's Hospital is rather exceptional in the use of an increasing amount of alcohol in addition to a greatly increased amount of milk. In 1852, that hospital spent £786 on alcohol and £269 on milk; in 1862 it spent £1,174 on alcohol, and £424 on milk; in 1871, £1,076 on alcohol, and £686 on milk; and in 1882, £1,081 on alcohol and £1,073 on milk. Westminster Hospital is the most thorough of the hospitals in its abstinence from alcohol; for in 1882 it spent only £207 on alcohol against £736 on milk. If St George's Hospital be right, Westminster Hospital practice must be wrong; and *vice versa*. Discussion alone can settle this difference in practice. Experience, of course, is the only avenue by which truth enters the mind; but discussion is needed for the interpretation of experience. The use of milk has also increased greatly at Guy's Hospital, where it

cost £236 in 1852, and £1,448 in 1882; and at the London Hospital, where in 1852 it cost £426, and in 1882 no less than £2,427. Such statistics as these show more clearly than words what the physicians and surgeons of these institutions are at present thinking of alcohol *v.* milk.

In 1884 a discussion arose, on the treatment of typhoid fever, in the Medical Society of London (*British Medical Journal*, February 23 and March 1, 1884). The following statistics were then brought forward:—

Hospital.	Years.	Cases.	Deaths.	Mortality per cent.
London Fever	7 years ending 1872	3,107	447	14·3
" "	7 " 1879	550	93	17·0
" "	5 " 1883	355	51	14·0
Middlesex	6 " 1883	823	122	14·8
Guy's	10 " 1883	440	78	17·7
St. George's	7 " 1883	281	69	24·0
Charité, Berlin	20 " 1867	2,228	405	18·0
" "	9 " 1876	2,086	207	13·0
Prussian Army ...	7 " 1874	—	—	15·0
" " ...	7 " 1881	—	—	9·7
Average in France, as given by Jaccot	{ Old system ...	80,000	—	19·0
	{ New system ...	—	—	11·0

If we compare St. George's Hospital statistics with those of the Prussian Army up to 1881, during which time in the latter cold bathing has replaced alcohol, we find a mortality in the former of 24·0 to 9·7 in the latter. Dr. Myers, of St. George's Hospital, states that the treatment of fever in that hospital was expectant and alcoholic. A great addition to our knowledge of the statistics of this question has been recently obtained through the labours of Mr. George Sturge, of Sydenham Hill, who has collected the returns of the sums paid for alcohol from the secretaries of nineteen metropolitan general hospitals, fifty-three provincial general hospitals, and thirty-eight special hospitals in London and the provinces (*Philanthropist*, December, 1885). It appears from that gentleman's report, that in 1884 there were admitted into the London Hospital 8,015 patients, which, with 550 in treatment at the beginning of the year, gave a total of 8,565 cases. The sum of £1,350 was expended on beer, wine and spirits, one pint of porter daily forming part of the full meal diet of that hospital.

Mr. Sturge opposes this on the ground that the statistics of the General Provident Life Institution show that between 1866 and 1882, 2,644 deaths were expected to occur among the abstaining insurers, and only 1,861 occurred; whilst among the

non-abstaining insurers 4,408 deaths were expected and 4,339 occurred. Why, then, says Mr. Sturge, does the London Hospital encourage by its diet table the moderate use of beer by the healthy? Among the metropolitan hospitals, according to Mr. Sturge, the amount of alcohol annually given per patient costs, at St. George's Hospital, 4s. 9d.; at St. Thomas's, 5s. 9d.; at St. Mary's, 3s. 11d.; at Charing Cross, 3s. 4d.; at the German Hospital, 4s. 7d.; at the Middlesex Hospital, 4s. 3d.; at the Royal Free, 5s. 3d. University College spends only 2s. 7d. per patient per annum, and Westminster only 2s. In the provincial hospitals, Edinburgh spends 1s. 11d.; Burton-on-Trent only 1s.; Doncaster Infirmary, 4s. 3d.; Leeds General Infirmary, 7d.; Addenbrooke's, Cambridge, no less than 6s. 8d., and Suffolk 6s. 8d.; whilst Torbay Hospital spends only 3d., and Queen's Hospital, Birmingham, 1d. Manchester Royal Infirmary spends only 11d., and Sunderland 3d. In the case of special hospitals, Brompton Hospital spends 10s. 7d.; the British Lying-in Hospital, 6s. 6d.; Soho Square (Women), 4s. 8d.; whilst the Sparkhill Hospital for Women at Birmingham spends only 1s. 4d. Children's hospitals sometimes spend a large amount on alcohol: thus Shadwell Hospital spends 3s. 9d., against which the North-Eastern Hospital for Children spends only 3d., and the Bristol Hospital for Children only 2d. The London Fever Hospital spends 11s. 11d. on alcohol, and St. John's Hospital for Skin Diseases, 10s. 2d., and the National Hospital for Paralysis and Epilepsy spends 9s. 5d. The Cancer Hospital spends 4s. 11d., and St. Peter's Hospital, 2s. 11d. There is obviously no orthodoxy in the administration of such wonderfully different amounts of a powerful drug. Dr. Norman Kerr, in his important pamphlet entitled "*Stimulants in Workhouses*," mentions that in England and Wales in 1871, the sums of £82,554 and £32,870 were spent on alcohol for indoor and outdoor relief. This sum was unequally distributed, for in Radnor 17s. per head was spent on alcohol, against 2s. in Carnarvon. In Ireland, in 1872, some parishes spent nothing at all on alcohol, *e.g.*, Longford, Armagh, and Newry. The cost per head of all the sick poor in Ireland for alcohol was 1s. 11½d. per annum in 1880; but this cost varied from 0 to 7s. 10d. in various workhouses. In Scotland, the cost per pauper per head in alcohol varies from 5d. in Dumbarton to 17s. in Thurso. In Edinburgh it was 1s. 3¼d. Towns are far more extravagant than country parts. In London, in 1876, 9s. 10d. was spent per head for indoor, and 9s. 10d. for outdoor, paupers, whereas in the northern division 2s. sufficed. Which was right? In Bethnal Green Workhouse, 1,121 inmates cost £1,081; in Camberwell, 518 cost £909. Bermondsey Workhouse spent £199 for 479 inmates, whilst Rotherhithe spent £383 for 219, *i.e.*, nearly twice as much for

less than half the number of paupers. Beer, according to Dr. Kerr, is often, illegally as it seems to me, given to healthy men and women in the house, in lieu of payment for services.

CONCLUSIONS.

1. Alcohol is not a real food, but must be classed among the anæsthetics, in company with ether and chloroform: hence it ought not to be used as an article of ordinary diet.
2. The treatment of fevers by alcohol in large quantities is inferior to the treatment by cold and ordinary diet.
3. There is no clear proof that alcohol is changed into carbonic acid and water in the system; and, at any rate, part of it remains unchanged for as much as twelve hours in the system, irritating the internal organs.
4. Moderate amounts of alcohol neither raise nor lower the temperature, but excite the heart's action, and in some cases, in small doses, less than one ounce, gives appetite.
5. In large and stupifying doses, alcohol lowers the temperature.
6. The amount of alcohol administered in various hospitals is so wanting in uniformity, as to show that there is no settled opinion in the profession at present as to its value.
7. It would be well when alcohol is prescribed in clinical hospitals, that some exact amount of it should be prescribed, and not a varying amount of an alcoholic fluid not analysed.
8. The London Temperance Hospital experiment seems to indicate that many diseases do well without the use of any alcohol, which previously were thought to require it.
9. Hence, whilst the modesty of science forbids us to say that alcohol will prove useless in any given disease, it seems advisable for patients in hospital to have that drug administered to them with far greater caution than has hitherto been the case. And it would seem also to follow that all mere dietaries should be free from the routine use of alcohol, which should in all cases in hospital be distinctly ordered to the patient by his medical adviser.



ALCOHOLIC PARALYSIS.—In the current number of *Brain*, Professor Dreschfeld has some interesting further observations on alcoholic paralysis. He has found that Magnus Huss, who is generally credited with having been the first to describe a paralytic form of chronic alcoholism, was preceded by thirty years by Dr. James Jackson in the United States. The latter wrote in 1822. Dr. Dreschfeld has clinically divided this affection into two groups, alcoholic ataxia and alcoholic paralysis—a classification followed by Lowenfeld, Moëli, Schulz, Krücke, and Strümpell. Alcoholic paralysis is a multiple peripheral neuritis.—*British Medical Journal*, Jan. 9.

Miscellaneous Communications.

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THE HABITUAL DRUNKARDS ACT, 1879,

INEFFICIENT, AND NOT ADEQUATE TO ACCOMPLISH THE IMPORTANT OBJECTS DESIRABLE.*

By A. PEDDIE, M.D., F.R.C.P.E., Edinburgh.

ON January 6, 1858, I led the way to a discussion on the personal and social aspects of insane drinkers, at a meeting of the Medico-Chirurgical Society Edinburgh, by communicating a paper entitled, "The necessity of some Legalised Arrangements for the Treatment of Dipsomania or the Drinking Insanity." † The discussion on it was opened by the late Sir Robert Christison, who, after stating his conviction as to the need of such arrangements, said:—"Dr. Peddie had a somewhat Herculean task before him in attempting to obtain legislation on this subject, but he must not be discouraged by the want of success that had attended the feeble effort of the Lunacy Commission, &c." (*Edinburgh Medical Journal*, 1858, p. 760). The effort referred to was that of the Scottish Lunacy Commission of 1855, who in their Report of 1857 recommended that Government should devise some special regulations for prolonging control over cases of insanity arising from the habit of intemperance (vol. I., p. 256); but the Lord Advocate of the period, in framing a Lunacy Bill, was deterred from proposing any legislation on the subject, by the evident difficulties of the question, as a part of a Lunacy Act, and thus the matter fell through.

The prophetic utterance of Dr. Christison as to the difficulty of settling this question, has, notwithstanding much ventilation and discussion, been

fully verified; for after the lapse of twenty-eight years, no satisfactory legislation has yet been obtained.

For two years following the publication of that brochure, much criticism and correspondence appeared in newspapers and periodicals, almost unanimously favourable to the plea advanced; and since then from time to time I contributed various other papers on the subject to societies and journals, while up to the present day much has been published by others in different journals and separately; * and lectures have been delivered, and meetings held, maintaining that in many cases inebriety is a disease—a form of insanity, or having a close affinity to it, seriously affecting the power of the will through an impulsive desire for intoxicants; and requiring for individual and social interests, physical, mental, and moral treatment, under more or less personal control, which can only be accomplished by legislative enactment. An additional interest was given to the subject in 1870 by the formation, in the United States, of "The American Association for the Cure of Inebriety," of which Dr. Parrish has been one of the most active and influential members; while in Australia the subject was warmly

* Read at a meeting of the Society for the Study and Cure of Inebriety, Jan. 5, 1886.

† Published by Sutherland & Knox, Edinburgh, and Simpkin, Marshall & Co., London, 1858.

* "Some of the Medico-legal relations of the habit of Intemperance." By Dr. Christison, Adam and Charles Black, 1861. Article on "Drink and Disease" in *Quarterly Review*, vol. 139, p. 396, by Lady Eastlake. Papers in various Journals by Drs. Laycock, Skae, Forbes Winslow, Lauder Lindsay, Boddington, Carpenter, Russell, German, Clouston, Mould, Stephen Alford, Nerman Kerr, Tweedy of Dublin, &c., &c.

and effectively agitated by Dr. McCarthy, of Melbourne. It was in the same year that practical direction was first given to the question by the late Dr. Donald Dalrymple, M.P. for Bath. With untiring zeal and energy in the cause during four years, Dr. Dalrymple got up public meetings; organised deputations to Government; introduced the question to the House of Commons, first in the form of a Resolution, and then in a Bill; obtained in 1872 the appointment of a Select Committee to inquire into the whole subject; and lastly, brought in a Bill founded on the strong recommendations of that Committee. Parliament was not approached again until 1877, two years after Dr. Dalrymple's death, when the "Society for promoting legislation for the control and cure of Habitual Drunkards" took up the cause; and in 1879 a Bill was passed through both Houses, but, alas, not *the* Bill framed on the lines of the Select Committee's Report and the Dalrymple Bills—but one shorn of its most important provisions; namely, a compulsory clause, and its application to the labouring, pauper, and criminal classes.

It was no doubt evident to Dr. Cameron, who took charge of the measure, that, had not a compromise been made, his Bill would have been thrown out; but in my opinion it would have been better had such been its fate, for we might have had more satisfactory legislation, by continued agitation, ere this time.

Its settlement merely to recognise the voluntary admission of a dipsomaniac to a home or retreat for a given time under troublesome and hampering forms, even although some compulsory power for prolonged detention in extreme circumstances were exercised, was most disappointing and discouraging to those who had given much consideration to the various aspects of the disease of drink-craving. It was especially so to medical men, who were almost unanimous in their desire to obtain some legislative powers, knowing well the important bearings of insane drinking on individual and social welfare; and the

almost insuperable difficulties in the way of its successful treatment.

At the time when the present feeble Act was passed, it was considered by some a great step gained, in having something of a principle recognised in the definition given in it, namely, that "a habitual drunkard means a person, who, not being amenable to any jurisdiction in lunacy, is, notwithstanding, by reason of habitual intemperate drinking of intoxicating liquor, at times dangerous to himself or herself or to others; or incapable of managing himself or herself, and his or her affairs."

No doubt the principle so affirmed by law—so far as it went—was a good thing abstractly considered; but of what value was such to be reflected on for the ten years granted by the Act, without its being available in actual practice? Consequently the Act, being only permissive, affords no greater facility for the care and cure of dipsomaniacs than formerly existed; on the contrary, medical men and friends of the inebriate, find it more difficult now to persuade him or her to submit to a period of retirement, control, and curative treatment, knowing as they must, from the public discussions which have taken place of late years in regard to a Habitual Drunkards Act, that no law has been obtained by which there can be an enforced withdrawal from present surroundings, and restraint imposed on personal liberty. Out of the many deplorable instances of this malady, a few may be worked on by the entreaties and tears, or threats of relatives and friends; and under the apprehension of being cast off and exposed to want and starvation, may yield a reluctant consent to submission; but even in such instances the wretched victims of the tyrant desire to drawback at the last moment after every arrangement has been made, and work on the faint-heartedness of friends, or defy further interference. Thus, in my own experience over half a century of practice, after much interviewing and correspondence, even at the eleventh hour, when consent had been obtained and a home chosen, one case only in a dozen has been

brought to submission; or after retirement for a time had been secured, detention could not be accomplished long enough to effect decided benefit. I feel sure that if inquiry was made to those connected with Inebriate Homes or Retreats throughout the United Kingdom as to the proportion of boarders really admitted, compared with the inquiries made regarding accommodation, &c., the former would be found very trifling; and that were the investigation extended to the length of time those admitted have remained under control, or were dismissed on account of refractory behaviour, the reply would be very discouraging.

Indeed the opposition of an inebriate to restraint is quite in accordance with depraved human nature. A propensity so deeply rooted in the constitution, so enslaving and irresistible in its nature, blunts the better feelings of humanity and reasoning power, so as to incapacitate for the appreciation of advice given by medical men and friends; and if such difficulties were experienced before the Act of 1879, still more are they now felt under the staggering and deterrent legal forms and obligations imposed by its provisions.

The result would, I believe, have been quite different, if in the present Act, alongside of a voluntary, there had been a compulsory clause, the former being made more easy in its conditions. Without the latter, the beneficent and reformatory design of any Habitual Drunkards Act cannot, I think, be accomplished. Thus, should persuasion prove ineffectual in inducing an inebriate to place himself or herself voluntarily in a home or retreat, as it so often did prior to the passing of the Act, and does still more so now, the alternative of compulsory enforcement advised, say, by two medical men, and on the evidence (but not in an open court) of two or more friends or individuals well acquainted with the peculiar circumstances of the case, would settle the matter. By such legal powers hanging over the wretched victim of this overmastering propensity, unquestionably voluntary submission would be

preferred to magisterial commitment. The experience of such authority in Canada and in most of the American States to draft persons into Inebriate Homes amply proves that, while voluntary surrenders are very numerous, instances of enforced treatment are extremely few.

As the Act stands the so-called, or rather misnamed, voluntary submission, is positively deterrent and obnoxious. The process to be gone through bears the stamp of a compulsory and punitive warrant, inasmuch as to obtain admission to a licensed home the inebriate must appear before two sheriffs or magistrates, or justices of the peace, make an affirmation in writing as to intemperance, and the length of time agreed on to remain under control, &c. No wonder that few have been found willing to make a voluntary surrender of liberty on such terms; as has been justly said, "it is very much like empowering the imprisonment of a thief on condition of his assent" (*Lancet*, September 5, 1885, p. 439). Surely a contract or agreement entered into with the superintendent of a Home, such as is the sole requirement for voluntary entrance to the American institutions—and found to answer well—might be sufficient here; and the proposed contract would simply bear that the inebriate agreed to comply for a specified length of time with those regulations made known to him as attaching to a licensed home, which rules should be few but precise, and applicable to the mental, moral, and physical condition and treatment of an inmate. Then all Homes or Retreats, on whatever scale established, must possess a license given at a small cost, without an oppressive £5 stamp, and consequently these Homes would be under government inspection, notice being given to the inspector within three days after the admission of a boarder.

As a part of this scheme I would have admissions considered as of two different classes, namely, *private boarders*, those who enter voluntarily, and *certified boarders*, those sent in under the Compulsory Clause; both

classes, however, being alike under inspection from time to time, just as the inmates of lunatic asylums are, who are admitted under a sheriff's warrant, or reported to a Commissioner of Lunacy as voluntary patients. Thus all necessary ends would be served, and interests respected; the obnoxious deterrent ordeal of admission in the general run of cases avoided; the liberty of the subject sufficiently guarded; and any undue exercise of power by superintendents or other officials, any violation of law, or of propriety in the arrangements of the Home, or any real or supposed injury to person or property, could be at once inquired into, and effectively remedied, if not by the inspector, by appeal to a justice of peace, or a magistrate of the district, or even to the Secretary of State.

Were such the general arrangements and provisions of a Habitual Drunkards Act, I believe there would seldom be occasion, and then only in the most extreme and confirmed cases of dipsomania, to resort to the alternative course of compulsory consignment by magisterial warrant; and afterwards, of course if necessary on reliable evidence, of prolonged detention. Besides, a large number of the more ordinary forms and degrees of inebriety, which at present cannot be brought under control, might be subjected for a longer or shorter time to that mental, moral, and physical treatment, by which alone a good percentage of cure can be secured. Thus, the victims of intermittent or periodic inebriety, who form a very considerable class of insane drinkers, being well aware from past experience that the crave was beginning, as sometimes happens in the parallel condition of an expected outbreak of lunacy, would, without pressure *ab extra*, seek refuge in a Home even for a short period of time, by which step much personal and relative danger or disquietude might be averted, the spirit demon exorcised, and they, "clothed and in their right mind," restored to the family circle or society, fitted for the ordinary decencies and duties of life. In another and larger

class of cases characterised by more continuous and persistent, or what may be called chronic drinking, the persuasion of medical men, relatives, or others, would be infinitely more likely to prove effective with the private contract above proposed, than by the form of voluntary consent prescribed in the present Act. Lastly, the worst type of dipsomaniacs, who are incapable of listening to reason, would be disposed of much in the same way as the ordinary insane, who are unable to give an intelligent consent to control; and subsequently their period of detention prolonged by judicial authority so long as is attested to be necessary. In those latter cases there need be no squeamishness in resorting to compulsion, since the wretched dipsomaniac not only abuses his own liberty, and is suicidal in respect of his own happiness and prosperity in life, but infringes on that of those most intimately connected with or dependent on him; and ultimately becomes a burden on the State. The success and power of such an altered law would thus lie in its not being unnecessarily hampered with repugnant and deterrent forms, while safeguarding the best interests of individuals, families and society, objects surely worthy of consideration and regulation by a wise paternal government.

As a certain result of the adoption of such legislation, there is every reason to believe many more homes for males and females of the upper and middle classes than now exist, would be opened in different parts of the kingdom, either through private enterprise, or by such combined philanthropic action as has founded that most admirable institution "The Dalrymple Home" at Rickmansworth; which in spite of an imperfect and inefficient Act has already—I understand—accomplished much truly good work through the unremitting energy of your President and others; and has now become self-supporting. Doubtless similar homes would be established in all our large cities if encouraged by more liberal and rational legislation; and also throughout the

country; homes or retreats of a more private and humbler character, but not the less useful because on a smaller scale, and of semi-commercial proprietorship. In Scotland private establishments for the care and cure of inebriates have hitherto struggled under very considerable difficulties; and since the passing of the Act, these homes are, I believe, fewer in number, and have been no better as regards financial or curative success; for as here is no legal power to induce or enforce entrance to them, or to detain long enough to accomplish a decided influence over the enslaving morbid propensity, there is great uncertainty as to a continued supply of inmates and success in cure; and consequently, it is not to be expected that these institutions can be maintained so as to yield a remunerative return for capital invested. To secure suitable premises in a suitable situation; to insure intelligent, watchful, firm, yet kindly supervision; to overcome the slothfulness and self-indulgence which usually attends the drinking propensity by arrangements for occupation and exercise; and in general to provide judiciously for such personal comforts as will promote contentment, and such means as will divert the mind and feelings into healthy channels, cannot be accomplished at a trifling cost.

All that has hitherto been said has had more direct reference to legislation for habitual drunkards in the upper and middle classes of society, for whom there must be higher payments for board and treatment; but for the lower grades—the labouring, the pauper, and the criminal classes—there has been no provision made in the Act of 1879. This is a great defect in it; for while the vice of drunkenness in all its most degrading and disgusting forms is more prevalent in the lower strata of our population, disturbing peace and prosperity in private life, and endangering the safety of the public, there are in it also a greater number of the worst type of inebriates, namely, genuine dipsomaniacs, dragging down to beggary and wretchedness numbers of those who are well-to-do; and thus largely increasing

disease, destitution, and crime, and consequently continuous gravitation to our hospitals, poorhouses, asylums, and prisons, imposing a correspondingly heavy burden on local taxation, and the funds of the nation.

Of course private enterprise or philanthropic associations cannot be expected to establish inebriate homes or sanatoria so as to meet altogether the exigencies of this great social evil; but municipal and parochial authorities, perhaps supplemented to some extent by government, could accomplish most excellent results. From work done and wages earned by the inmates of such institutions, the expense of maintenance might to a large extent be met, and something over and above gained for the benefit of their families, or in the absence of such, for his or her own use when the period of control terminates; thus also habits of industry and providence cultivated, would prove excellent counteractives against a return to drinking habits; and other agencies, physical, mental, moral, and especially religious, would be the surest means of generating self-esteem, and strengthening the power of self-control.

Then as to the large, troublesome, dangerous, and expensive class of inebriates, so well known to our magistrates, police, and prison officials, as criminal drunkards, government ought unquestionably to make some provision in a Habitual Drunkards Act, by which suitable treatment could be carried out in reformatories either in connection with or altogether distinct from prisons. Inebriates of this class are at present almost inextricably sunk in the lowest depths of the social scale. They are almost constantly resident in police cells or prisons from oft-repeated sentences on account of assaults or crimes, committed to obtain drink or under the influence of it; many of them are most dangerous; and all are pests in society, and—as must be admitted—most costly to the country.

Of course in such establishments the punitive element could not altogether be separated from the reformatory; and the expense of upholding

them would to a considerable extent fall on prison boards; but I firmly believe that the good accomplished in them by strict yet kindly and judicious management, there would in time be ample compensation to the State, and probably a large saving of the at present utterly useless expenditure. Here inmates would be obliged to work, in the first instance for their own maintenance, and possibly by good conduct win something over to help themselves when the term of restraint expired. Direct commitment by the Magistrates to such reformatories might in many instances be judiciously made after three or four convictions without passing the criminal through a prison, which all experience has shown to be utterly useless as a preventive of future offences, and a monstrous waste of money as regards this class of offenders. But if it must be continued so to some extent as a mark of justice on account of crime committed, the prisoner might be transferred to a Reformatory in some cases before the period of sentence expires, or at any rate then, by a warrant from a Magistrate or Sheriff for such prolonged detention in it as circumstances justify, when he would be subjected to those various influences already spoken of. By such means I firmly believe a considerable per centage might be saved from an otherwise almost certain relapse into old evil ways, and a speedy return to prison life, or a curse on society. But without pursuing further this important branch of my subject I would refer to the evidence I gave before the Select Committee of the House of Commons in 1872,* and especially to the suggestions for Legislation, which that Committee did me the honour to accept and insert in full in the Appendix to their Report (No. 3, p.p. 186-190).

Those who are hostile to any legis-

lation in the case of Habitual Drunkards, will be very ready to remind us ere long that the Act of 1879 was granted as a tentative measure,—one to prove whether there has been a demand for Inebriate Homes throughout the country; and as so little has been done during the last five years in the establishment of such institutions, and consequently in the direction of reformation and cure, we shall probably be told that the movement is proved to be a failure, and therefore the question unworthy of further consideration. I trust, however, that the foregoing criticisms and statements will show that the comparative inefficiency of the Act is altogether attributable to the utter inadequacy of the provisions granted by Parliament, to promote the beneficent objects which special legal facilities were intended to accomplish.

Regarding the necessity for such controlling power, as was indicated in the Report of the Committee and Mr. Dalrymple's first Bill, in Confirmed or Habitual Drunkenness, Insane Drinking, Drink Craving, Oniomania, Dipsomania, or by whatever name the condition of extreme Inebriety may be designated, the mind of the medical profession was, and I believe still is, almost unanimous. There is a very general consensus of opinion that in whatever way the wretched condition has originated, been acquired, or produced, the insane impulse for intoxicants is, or in time becomes, the physical manifestation of the abnormal change in the functions of the brain and nervous system. It is easy to perceive that an agent so powerful as alcohol, which by continued over-indulgence produces in certain constitutions serious mischief in other organs, such as the liver and kidneys, through contamination of the blood, will act seriously as a toxic poison on the more delicate structures of the brain and nervous system, and especially on individuals of a nervous temperament. But while Dipsomania may thus have its beginning from the vice of intemperance, ample proof exists that the malady is in a large proportion of cases distinctly con-

* Report from Select Committee on Habitual Drunkards, together with the proceedings of the Committee, with minutes of evidence ordered by House of Commons to be printed June 13th, 1872." See evidence given on March 19th, pp. 48-49.

stitutional and hereditary in origin, or apt to result from some injury to the brain or nervous system.

Those various ways in which it has its origin, action and reactions, are not inconsistent with experience and pathology, which, did my limits permit, might be amply illustrated by the analogies and transition states of other affections, such as gout, various forms of insanity, sunstrokes, blows on the head, and the remarkable production of other forms of mental disease—as well as the drink craving proclivity—in the offspring of Inebriates. As I have elsewhere said, (*Social Science Transactions*, 1860, p. 538) “whether the disease exists in its ordinary phases and intensity from the voluntary habit of intemperance, in course of time affecting the brain and nervous system, and begetting an advanced degree of moral obliquity, or whether it assumes its worst type from constitutional heredity, the psychological and pathological results are the same. These are impaired volitions, blunted moral feelings, notorious untruthfulness, and loss of self-respect and self-control. The sole desire of existence is to obtain stimulating drink; the highest degree of intelligence is evinced in the means to obtain the end; and to gratify for one moment the insane impulse, the victim of it could stake even his eternal welfare.”

Here then we are brought to view the test by which to distinguish the insane drinker from all other drunkards, and thus to remove difficulty in determining what should constitute the logical and legal understanding as to his case. The Dipsomaniac is in the condition characteristic of, or analogous to, a large proportion of other insane individuals: “He has lost,” as has been aptly said, “the distinguishing attribute of Sanity, the mastery of himself.” He cannot overcome by strength of will the desire for spirituous liquors which burns within him, which excites him to mischievous, sometimes theftuous actions, or sudden fits of violent conduct, or to suicide, or murder. The motives presented by religion

and morality, or the ties of nearest or dearest kin, have no sway over him; medical advice is still less availing without the power to enforce restraint; the law has no terrors to him; in a word, reason is dethroned, and he is alike regardless of his obligations to God and man.

It scarcely indeed requires medical acumen to form a correct diagnosis of what constitutes a Dipsomaniac. The general public to a considerable extent, from the discussions of the last twenty-seven or twenty-eight years and observations, have come to recognise the ordinary forms of drunkenness connected with social and sinful habits,—drinking the vice,—from the solitary and impulsive drink,—drinking the disease,—and those especially who have come in contact with relatives or friends affected with the latter, have no hesitation in pronouncing them as unsound in mind, and will most readily admit the necessity of personal control. In some other forms of insanity there may be a difficulty in diagnosis and in deciding on the proper remedy, but not in Dipsomania; for the circumstances connected with the proclivity are open to ordinary common-sense observation, and may be spoken to by the evidence of testimony, while the physical manifestations are sufficiently marked and characteristic. While the profession and the public know that the vicious drinker must be left to nature’s own penalties for transgressions of the laws of health, to the teachings of religion and morality, to the example of the wise and good, or to the cognisance of the police or Courts of law, there is also now a pretty general consensus of opinion that the confirmed Inebriate ranks in a different category, requiring that he or she be deprived of personal liberty for a time, until by enforced abstinence and medical treatment, combined with moral government, the brain and nervous system may regain a healthy tone, and the will its power of control.

Naturally in this country the liberty of the subject is guarded with much jealousy. It is very properly viewed as a most precious possession, and

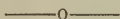
therefore public opinion has been somewhat slow in assenting to the idea of legal enactment to restrain the Habitual Drunkard even with the design of reformation and cure. But he must be looked on as an enslaver of himself, as an abuser of his own liberty, and as pursuing a suicidal course in respect of his own best interests. As I have said elsewhere (*British Medical Journal*, 1875, p. 255) in answer to those objecting to legislation in such cases—as they have done—by asking, is not this a free country and has a man not a right to do with his own as he chooses, taking the consequences of his conduct? No, I reply; the State regards a suicide either as a criminal or as insane, and the Dipsomaniac therefore being more of the latter, having lost the power of reason in governing his will, must be regarded as labouring under a mental malady or as morally insane, and as much requiring treatment under restraint, as any other form of mental alienation. But besides, it is not only himself that the confirmed drunkard injures, but he is the cause of suffering and injury to others; and surely it is not the rightful privilege of any man to waste the means of those naturally dependent on him, perhaps to disgrace as well as ruin his own family and friends, or place them in personal danger, or be the cause of disquietude and annoyance to all around. The liberty of the subject is indeed a precious trust; and that it should be jealously watched over and protected is the ruling glory of the British Constitution; but the welfare of Society is still more sacred. The defects of law sufficiently to meet the case of the insane drinker is in reality allowing a license for evil, when precautions are not taken to prevent grievous infringement of the liberties, rights and privileges of others. It is certainly an overstrained delicacy in legislation which checks interference with a class of cases necessarily occasioning much private misery, and public expenditure, as the records of the courts of law, the church, of our prisons, poor-houses, and lunatic asylums amply prove. Justice, humanity, political

economy, and expediency all round therefore call for legal interposition, and for facility to control, and if possible to cure, the Habitual Drunkard, since medical and other advice, or moral suasion, are of no avail in influencing his actions: and surely when such is the case it is the manifest duty of a wise government to exercise over all its subjects a paternal relationship.

In a great many ways the liberty of the subject is most properly interfered with for personal benefit, for the protection or good of others, for the amenity of a neighbourhood or the general welfare of the public; and why not in cases and circumstances so clamant as those pointed out? The law sanctions restraint in the case of lunatics, even although harmless to themselves or others, and in cases where some innocent delusion exists which does not affect the interests either of individuals or the public. It places under trust those who are only somewhat feeble and facile minded, and it does so likewise in the case of the spendthrift, while it does not interfere with the confirmed Inebriate whose moral helplessness and incapacity in social life, and as a citizen, and whose undutifulness and wastefulness in the family circle is notorious. Then the law properly interferes in many other ways with what may be called the natural rights of individuals and of a community, for the satisfaction or supposed benefit of others, or the public welfare. Thus there are permissions given to invade highly cherished grounds by railway cuttings; and laws enacted to remove nuisances, such as smells, or smoke from one's own property; also for the slaughter of cattle under the mandate of the Contagious Diseases Act; for compulsory vaccination; compulsory education; the regulation of labour under the Factory Act; the restrictions of the spirit trade as to the hours of sale and Sunday traffic—and most likely ere long, in the matter of local option; moreover, as regards the sale of poisons, and as to gambling, betting, the circulation of obscene publications, the utterance in public of blasphemous language, &c., &c.

I must not, however, detain you longer, but conclude by expressing the hope that ere the decade of the present Act terminates, there may be few who hold so strongly to the miserably mistaken and politically unwise view of liberty, as to oppose the desire for increased facility to protect the Habitual Drunkard from the injury he or she inflicts on themselves by conduct which they have not the power to control; or if not with that beneficent view, at least for the

protection of the sacred interests of others, and of society. And I trust that this Society, while zealously continuing the Study of Inebriety in all its aspects and bearings, will re-agitate the question of Legislation so as to be prepared by-and-bye to bring before the country and Parliament, an improved measure on the lines of the Report of Mr. Dalrymple's Commission, and of his first Bill, to take the place of the present comparatively inert Act.



TEMPERANCE AND YOUNG PHYSIC.*

By BENJAMIN WARD RICHARDSON, M.D., F.R.S.

"Do I say that I come to tie you to this war? No! But this I do say, that if with me you would prosecute this war, prosecute vigorously, or don't do it at all. I think it my duty to deal plainly, and therefore I say, Prosecute it vigorously."

This admonition, addressed by one of the greatest rulers and soldiers who ever sat at the head of affairs in England to the finest volunteer who ever fought for English liberty, is a good text for an address to those volunteers in the army of young physic who are now going forth to fight for the liberty of the abject, for the entire liberty of the world from the most oppressive and aggressive foe with which the world is afflicted.

The opportunity for enforcing the lessons derivable from this text is most fortunate, for me too fortunate, since I doubt if I can take all that advantage of it which it presents so forcibly. If I had the power of the author of the text, I might indeed be sure of victorious application, but such as he are men of a century, and govern their time.

* Address delivered on the occasion of presenting the prize of One Hundred Guineas from the British Medical Temperance Association to Mr. H. A. W. Coryn, student of Charing Cross Hospital, January 22, 1886.

Let the text, nevertheless, stand on its own earnestness and impulse, as still a living precept.

One of the rising army of healers takes from my hand a prize to-day. This prize is not intended as a mere pecuniary reward. It is richest as a distinction and recognition of merit. We who have been most concerned in awarding this prize join with many voices, thousands of voices I am sure, in congratulating the victor. We trust, as we believe, that this success will be the first of many that are to follow; and with that earnest wish I will say no more of his victory.

I apply my text from henceforth to all who have competed for the prize, tendering to many of them, and to three especially, true admiration for their all but successful efforts. I apply it further still, namely, to every student of medicine who is in sympathy with the great cause of universal temperance, nay, to every student whose mind, not yet made up, is hesitating whether it is not his duty to come over to our side.

But to each one we say:—If you wish to join us in this war, if you wish to prosecute this war, prosecute it vigorously.

REASONS FOR THE WAR.

Why, ask you, is so much urged upon you? Why should you leave

the ranks of the majority to fight a battle that must bring you into conflict with many, and which may imperil your future fortune and fame? It is my duty to give answer to this inquiry.

First, then, I conjure you to prosecute the war for your own sakes. A selfish idea! Not at all when self-sake is properly comprehended. If this self-sake, which I here commend, were for your own self-gratification I would not for a moment enforce it. But in self-sake as it is here commended the interests of thousands, nay tens of thousands of others, are included with your own. You are not likely to prosecute the temperance cause without being yourselves representatives of that which you represent, which means self-protection, not to yourselves only, but to all whom you would help and directly advise. If you practise temperance by entirely abstaining from alcoholic drinks, you, as preservers of health, will be the finest representatives of that which you preserve. You will be precise in your work, decisive in your work, ready for your work, and enduring at your work, to the fullest extent of your natural powers. If you have to perform the most delicate of operations that surgery prescribes, you will attain a delicacy and refinement of touch which is the very essence of perfect skill. If you are summoned to some hazard of life, in which the triumph of life or death shall depend on your instant action, you will maintain that power of decision which is the first essential quality for the emergency. If you are placed in a position, so common in a medical career, when a number of varying circumstances run together to embarrass and perplex you; when sympathy clashes with judgment, and your head and heart are readily set at variance; when multitudes of counsellors, some timid, some rash, declare their opinions; and when tender, anxious friends hang on your hands for help and on your lips for hope—you will retain the presence of mind without which you may be worse than useless. If you are taxed with severe and long

labour, night-watching, day-watching, worry, you will possess an endurance which will carry you on, to the wonder of those who, less careful of their own lives and powers, look on to envy or admire. Precision, decision, presence of mind, endurance, these four cardinal virtues are yours, as far as you are constructed to own them, to their fullest value, if vigorously you prosecute this war.

There is richness of promise here, indeed, for every son of physic, enough to lead every thoughtful son to make up instantly his mind, if for nothing more. There is much more. These qualities will be crowned with happier, less clouded, longer life, if they be based on temperance. Let not one of you be for one moment deceived on this point. Let no plea for occasional indulgence, let no argument in sustenance of the safety of moderation, influence your minds on this all-important matter. Those of you who may live as long as I have lived will in your musing hours, sitting by your firesides when the day's work is done, or riding through busy streets in busy cities, or over field, road, moor, or mountain in country-sides, recall your early days and early comrades and friends of student times. You will reckon up the living and the dead, and, believe me, the reckoning, even in your happier day, will be both sad and solemn. You will be sure to recall some of the brightest and ablest of your early compeers who are dead! dead from no cause but one. You will summon up a few who have fallen from disease contracted in the course of duty; some who have fallen from disease inherited, and to them inevitable; some who have fallen from accident or battle; but these all put together will, I fear, fail to represent, numerically, those who have fallen from alcoholic drinks. You will have it on your record, too, that education, talent, genius, had no restraining power over these fatalities. The same order of facts will be in the book of life and death which you may read from other records than those of your early friends. Your practice will also bring to you precisely similar data.

Aside, nevertheless, will be another picture. In the temperate of your time and race, of all ranks and callings, you will discover the promise of length of days, riches, honour, fulfilled to the very letter of prophetic word.

FOR A LIFE WORTH LIVING.

"Ah, but," perhaps some of you may say—and I have heard the saying from much older lips than yours—"why should we look for wealth of life and length of it? Is it so fine a prospect to grow old and weary, with life a burthen, and death the only transport to be yearned for?" No, I reply, if that were natural necessity. But I will tell you what you will hear, and see, and learn, as you go on in your careers. You will hear men in their prime talk much nonsense about short lives and merry. When, however, you have to come to them, and are forced to tell them that the short life and once merry is near its early close, then you will hear the jeremiad of lamentation and mourning and woe, the merry life the bitterness of all recollections, the coming closure of it the deepest of all regrets. You will see men who have just arrived at that age of judgment when their knowledge, their experience, their powers are most ripe, pass away when those powers for directing good and useful service were most promising and most required. You will learn from the truly temperate that age, and even advanced age, may be attained with cheerfulness, usefulness; and that the euthanasia which Nature intends for every one of her children, making death as unknowable as birth, is the sure and certain reward of a natural life.

Let me repeat you a true saying, an historic truth often told, and by cynics of the Carlyle class made much of, as if it were something creditable because it is true. The true saying to which I refer is that the world lacks wisdom, or, put in another form, that there is plenty of every sense except common sense. Admitted. But why? Well, I think the reason is clear enough. There has been as yet no full maturity amongst the children of men. Men

grow up to manhood acquiring knowledge; they collect by observation what they call experience; they reach the period when their mental tablets are filled with all they can hold; and when they have attained the fulness of wisdom, and are just in form to make the world wise, they either die or become so feeble that living they are, practically, dead. In a large majority of instances this premature death, or this premature failure, is the result of indulgence in alcoholic drinks. In some eras, as the Elizabethan, and in the early part of the present century, the ablest men fell from this cause as by a natural event. A man at sixty had run his career. He might have had a fourth term of life in which wisely to labour, and all forfeited. The forfeit was breathed in the refrain once so popular over the winecup:—

"So 'tis with us, my jovial souls,
Let pleasure reign while here we stay;
Let's fill with joy our flowing bowls,
When Jove commands we must obey."

And Jove did command, and no mistake whatever.

FOR PROFESSIONAL CONSISTENCY.

For your own sakes then, in the best sense of selfishness, prosecute this war. Do it for another sake, for the sake of the noble and mighty profession you were made to adorn as well as practise.

In alcohol there is an agent which cuts down by disease, in England and Wales alone, one thousand persons a week. What if any other cause of mortality did the same? What if one thousand persons per week died, in the same area, from the bite of the rabid dog or the snake; by the swallowing of arsenic, opium, or prussic acid? What if some thousand persons a week were known to be killed by the secret devices of the slow poisoner, who, under the guise of friendship, went about and instilled into his victims some subtle drop which led to the shortening of their life and to the production of lingering organic fatal disease? What, indeed, then would be the cry and the action? Why all through the ranks of the

great profession of medicine there would be a tumult of labour and toil, such as never before was seen, to remove the calamity. Men would be ambitious to be first to discover by experiment, by experience, the cause of so fearful an evil, and to remove it instantly; while he who won the victory over the calamity would be extolled as illustrious, and, crowned with honour, become a household word from amongst the children of Esculapius. Yet here one single cause making this deadly havoc, a cause well-known and easily removable, in spite of its evils and in the face of its easy removal, is permitted to remain in sight with a majority of the army of medicine looking on in apathy, pitying us poor foolish fanatics who are exercising our limited powers to uproot it, and some, with the rest of the world, so sharing the calamity as to become co-partners in the destruction which follows from the participation.

This last practice is the saddest, the worst of all, and I do sincerely pray you of young physic, across whose vision the light has flitted, never to let it stultify your professional consistency and your professional power for good. Of all men be you the last to disseminate, either by example or any other method, the seeds of mortal disease. Brace yourselves up to the unalterable faith that of all businesses, callings, professions, it is not yours to teach the world the art of suicide by lethal luxury.

I have observed such reckless thought on this subject you must not think me pressing too hard if I pray you once again to be mindful of your duty in this respect. I have seen one who, in attendance on the delirious inebriate, as chief controlling guardian, was so seduced as to drink from the same cup the same fatal inebriate draught. I have seen the guardian take the place of the guarded; and through my mind, with piercing force, has come the proverb:—

“Vidi ego, naufragium qui riserat, æquore mergi:

Et, Nunquam, dixi, justior, unda fuit.”

I have seen him who at a shipwreck
jeered

Sink down to die beneath the treacherous
wave;

And I exclaimed, “Never since vessel
steered

Hath the deep sea more justly formed a
grave.”

Let no such shipwreck be your
unhappy lot.

I call upon you then to prosecute this war for temperance as becomes your own interests, and as becomes the power and the dignity of your profession. I call upon you further to prosecute it vigorously or not to do it at all. We stand now at a point where there must be no playing fast and loose with the enemy that is before us. The man who, impressed with the importance of this war, hesitates by precept or example to fight it out bravely and consistently is much better away from us than with us. The public, ever observant, spot,—if I may so say,—spot insincerity sooner and more keenly than any other failing. The good repudiate it and all who trade on it, indignantly; the bad accept it and make market out of it. You can no more stop at half-measures morally than you can physically. The drinker who takes up the noggin of ale and puts it to his mouth thinks little of gradations; and he who takes up the principle of admitting the noggin, as a necessity or compromise, thinks just as little. Between the taking up and the setting down there is no safety, no principle. The safety, the principle, rest on never taking up at all. The drink sellers put at the bottom of their tankards a floor of glass instead of metal. The drinker is thus able to witness the removal of the last obscuring drop, to be certain he has taken into himself all the tankard can hold, to feel that he has exchanged places with the pewter, and to discover how empty it is and how full he. That glass floor at the bottom of the tankard reveals volumes. It carries with it the whole story of craving for, and crime from, alcoholic drink. The drinker has to see that he has finished.

He cannot feel the fact, because by mere feeling his satisfaction cannot be calculated. His folly is made transparent in the tankard, but it is as transparent in those who play fast and loose with the principle of temperance; who say wine is a mocker, and who mock at temperance by measured compromises with wine.

Be consistent, then, in all your relations to this subject. If in a physical war you attacked a fort, you would not consider you had silenced it because you had knocked over its larger ordnance, while its minor guns poured out their still fatal, though less fatal volleys. What Ironside would have considered that plan as a part of his leader's charge to prosecute the war vigorously? No! you would fight on until not a single rifle was pointed against you. You would fight until the foe was totally beaten. So fight in this war.

A word as to the mode of warfare. I am greatly pleased, as one of the judges of our prize, to see the mode in which many of the essayists, the majority indeed, have conducted their work. They have proceeded, as they were bound to proceed, on the lines of scientific research. They have striven to prove from the best authorities, and some by original thesis, that alcohol forms no part in the natural life of the natural human being. This, for the doctor, is the one and right way. In order to gain success in argument on the alcohol question, he must carry conviction by following rigidly, nay exclusively, the plan of indicating the rôle of alcohol from physiological, hygienical, and pathological points of view. In other words, he must prove that alcohol plays no useful part in sustaining the healthy mind in the healthy body; that it plays no part in maintaining the general health and tranquillity; while it plays an important part in producing, confirming, and transmitting disease, and in swelling, beyond any other single cause of death, not excluding consumption itself, the bills of mortality. This is the medical light, pure and powerful when it is steadily upheld,

and yours are the hands to uphold it. It is essentially your own light, and it illumines every one it reaches. You need have no fear that it will be put out if you bear it bravely. You may enter with it a very whirlwind if you carry it firmly. It will burn under water, but wherever it reaches alcohol it will burn that up altogether.

ALCOHOL AS A MEDICINE.

In thus exposing the action of alcohol on the body and protesting against its use as a beverage, you have not the slightest occasion to forfeit any claim as to its value as a medicine. If you can, that is to say, on truly reasonable grounds, make use of alcohol for the treatment of disease, you may most consistently do so, provided always that you clearly differentiate between the general and mischievous, the medicinal, and, it may be, serviceable use. As a beverage disclaim it; as a medicine claim it. But even in respect to the medicinal use of alcohol you cannot be too careful, you cannot be too exact, you cannot be too watchful, you cannot be too industrious. You are bound to ascertain from day to day, from hour to hour, that your practice is sure, and to determine how far you can correct it by reducing the employment of the drug to the smallest possible amount. Take care also not to exaggerate the service you suppose to spring from alcohol; "extenuate nothing, nor aught set down in malice." For be assured that in any commendation you may extend to this particular agent, such are the rank superstitions in respect to it, your lightest word in its favour will often be turned into the highest and extremest praise. Not long since I merely prescribed a small quantity of alcohol in order to make it carry another medicine, and, to my astonishment, soon afterwards my prescription was shown up in a crowded drawing-room as a proof that I depended on alcohol in the treatment of disease, and that it had proved of the utmost value. The mean device would have succeeded had not a clever lady who could read

prescriptions,—and there are many such in these days,—discovered and exposed it. You will be subjected to the same kind of comment, and you must be ready for it, ready with the precise reason for prescribing it, whenever you employ alcohol in an exceptional manner as an exceptional instrument.

As far as my experience goes—and it extends now over a long series of years—you will have very little difficulty on this score. You will see, day by day, as you emancipate yourselves from old trammels, less and less necessity for prescribing alcohol; while you will find it perfectly straight and simple, if the occasion for it should arise, to protect both your principles and yourself from any suspicion of inconsistency or double-dealing. Conceal nothing, reveal everything; and understand in your mind all you mean as you describe it to others, then all will go well. The method in this concern is the same as in the composition of a sentence in writing. When you are composing and have written down a sentence, read it and revise it until you are absolutely certain that you yourself understand it at a glance. Then you may be sure that every one else will understand it. The same rule applies to the employment of other drugs than alcohol; but the doctor who belongs to the school of abstainers requires it most frequently.

It was another source of the greatest pleasure, in reading the essays which have been sent in for competition, to observe how exceedingly temperate all the writers have been in exposition of their argument. I strongly advise you to keep up this spirit, and tone, and style. You who claim temperance as your password should surely hold by it in your contests. You have no reason for any other course, and you weaken yourselves by following any other method of argument. You have always supreme Nature to rest upon, and her teachings at your command. You, therefore, need never rebuke. She, your mistress, will do that. You remember the beautiful old story, which, whether you accept it as literally true or symbolical, is equally

beautiful and equally instructive, that when Michael the great Archangel contended with the Devil for the body of holy Moses he raised not against him a railing accusation, but said, "The Lord rebuke thee." You can follow that example. There is not the slightest need, I assure you, in any argument on our side of the matter, to raise a railing accusation. If we simply keep to natural fact, Nature will do the rebuking irresistibly enough.

MEDICAL FORECAST.

Hitherto I have spoken to you purely on the medical, practical side of the temperance question. I must not close without uttering a few sentences on another side. You are going to be practitioners of the science and art of healing. Let that be your first care. Hufeland, the editor of the famous *Hufeland's Journal*, once the bright sun of medical learning; Hufeland, one of the purest, justest, wisest souls who ever laboured in our department of human knowledge, said of himself: "Not only with my understanding, but with my whole being, have I embraced this science; it has become my life." Take his feeling and mind as yours. At the same time take this forecast, that in the great future the doctor of medicine will have to become the *doctissima doctorum*, the learned man, the professor in and of a learned profession, the teacher of subjects far, far beyond what up to this time has been conceived to be the exclusive business of the practitioner of medicine. In all the professions the day of exclusive knowledge has passed away. In medicine it is passing away, soonest of all, as by a swift natural gradation. Medicine, as a science, is so entirely founded on the natural sciences that any great naturalist, is *ipso facto* two parts out of four a physician. We see this in the life and labours of the illustrious Antony van Leuwenhoek, who, since his death, in the early part of last century, up to the present day, has, from his discoveries in physiology, been claimed as a physician of

distinguished mark, but who was, indeed, nothing more and nothing less, as a man earning an honest livelihood, than the beadle of the court-house of the little Dutch town of Delft. Now, these exceptions are ceasing to be such, and all educated people are becoming scholars in natural science, physiological scholars especially, to whom two parts out of four of our art and mystery are revealed. Then, again, in the scientific practice, one good part out of four is preventive and personal, that is to say hygienic or sanative, a part of medicine which has become the property of all classes, claimed by other professors of other professions, by the engineers, by the chemists, and, with a kind of longing desire to have at least a finger in so splendid a pie, by some of the representatives of the body clerical.

There remains, then, nothing more in medicine, for the exclusive part of it, than one poor fourth part, what is called the technical, the art that is required for the practice. No doubt that comes out best in those who from their earliest lives have been bred to it. But it is not a difficult art to acquire by those whose minds and hands and tongues have a good natural mechanical bent. There is so much in it that is the same, over and over again, in word, in deed, in expression, that, although it may still be an art, it is no longer a mystery. Mystery, it is true, continues on one diploma, but it reads so badly even there that the owners of it are heartily ashamed of it.

MEDICINE TO THE FORE.

What, then, must become of the professors of healing if physiology be lost to them as a special acquisition, if to them sanative medicine shares the same fate, and if the art, as the special prerogative of their educational training, becomes lessened? My answer to this question is that in all these advances of learning medicine must either keep ahead or fall into the rear. A middle place she cannot hold. With daily increasing failure of practice because there are fewer and fewer

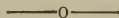
sick to be treated; with a higher intelligence daily and daily rising to confront and question you of young physic, you of the future must either stand above the masses or fall beneath them; sit with them you cannot. You must equip yourselves to become the leaders, the teachers of the people, on all subjects that relate to their health, their life, and, therefrom, their wealth and their happiness. When I joined medicine forty-three years ago such an equipment was not thought of, and would not have been considered befitting if it had been thought of. It was left for a new development, not of thought only, but of necessity, and you must accept and accredit it so that it may distinguish you if you wish to be distinguished.

Some of you have shown in your competition for this prize that in one line of the new era of medicine, physiological, sanative, practical medicine, you are prepared to move earnestly. You have done well. You have selected a line of advance which grows in force every hour, and which will be a true foundation of health and life through the new era, not a foundation to be laid in some distant time, but one which is laid already. A few weeks since the whole world of science was startled by a report from the Registrar-General's office that the mortality of this modern Babylon, this immense London, was down for one week to the rate of thirteen in the thousand. There have been many reforming and refining causes for this happy presage, but amongst these causes, temperance is of the first. In London, drunken, gambling, riotous, dirty from drink; in the London of forty years ago, all the Sanitarians and all the doctors put together could not have produced such a result. And, the more successfully you teach temperance, absolute temperance, the sooner will that grand result be the ordinary instead of the exceptional proof of triumph of life over death; of the veritable accomplishment of that which is written, "Death is swallowed up in victory."

Towards that mighty victory which you are armed for, I direct your

watchful, wondering, eager gaze to-day. It is to war, nevertheless, that I call you, and you must fight till victory comes. It is my mission to call you to it: it is yours to follow. Choose for yourselves, but let there be no misunderstanding as we start forth together. "Do I say that I

come to tie you to this war? No! But this I do say, that if with me you would prosecute this war, prosecute it vigorously, or don't do it at all. I think it my duty to deal plainly, and so I say, Prosecute it vigorously." —*The Asclepiad*, January, 1886 (London: Longman & Co.).



GLUTTONY AND INTEMPERANCE AS PREDISPOSING CAUSES OF LIVER SUPPURATIONS:

By GEORGE HARLEY, F.R.S., F.R.C.P. Lond. and Edin., *Corresponding Member of the Academy of Medicine, Madrid; of the Academy of Sciences of Bavaria, &c., &c.*

AFTER kindly designating my book, in which the views he objects to occur, as an admirable one, Dr. Moore asserts that I have most erroneously said that gluttony and intemperance are two of the main causes of the frequency of hepatic abscesses in European residents in India. Most willingly do I admit the truthfulness of the impeachment. And not only so; but I will even be so bold as to go a step further and unhesitatingly add that these two factors are not alone the most common of the predisposing causes of the idiopathic suppuration of the liver in India, but everywhere else. And this is an important statement to bear in mind, seeing that idiopathic abscesses of the liver are limited to no country, no clime, and no people on the face of the earth. Europeans, Indians, Africans, and Americans—North, South, and Central—all rendering themselves equally liable to be attacked with suppuration of the hepatic organ when they consume more food and drink more spirituous liquors than their systems can assimilate with advantage; the mere presence of an exciting cause, of which there are many in every quarter of the globe, when the predisposition exists, being all that is requisite to call the inflammation and subsequent suppuration into existence.

After so positively denying the truth of my statements regarding the much

greater frequency of liver abscesses among the well-to-do Europeans in India (my remarks had special reference to them) being due to the habitual over-indulgence in rich food and strong drink, coupled with an inactive mode of life, strange to say, Dr. Moore remarks that no one seeks to deny the observations of Macnamara, who "long since demonstrated that the mode of life of soldiers, especially in former days, was conducive to fatty liver and hepatic abscess." Such being the case, why, then, I ask, does he complain of my having given publicity to the same ideas? Here is his answer:—

"I entirely deny that the habits of Europeans in India are generally such as portrayed by Dr. (George) Harley. Gluttony and intemperance are no more the characteristics of Anglo-Indians than of similar classes at home." This, to my mind, is scarcely a fair way of presenting my statements to the reader. Firstly, because it incidentally implies that I accuse all Anglo-Indians of gluttony and intemperance, which I decidedly do not. All I say being that gluttony and intemperance are fruitful sources of liver abscess among the well-to-do Anglo-Indians resident in India, be they military or be they civilians. And even that statement I most guardedly qualified by an explanation of what I meant by the words gluttony and

intemperance, which qualifying part Dr. Moore unfortunately seemingly accidentally omitted, and consequently gave an entirely exaggerated physiological signification to these words as used in my book. What I really say is (p. 809): "The chief exciting causes of hepatic abscesses are gluttony and intemperance, which, in proportion to the habits of life, are far more common in Europeans living in the tropics than in the same class of individuals resident in temperance zones. It is to be remembered that the words intemperance and gluttony are here employed as relative terms, ruled and modified by collateral circumstances, as will presently be explained." Now for the explanation.

As circumstances alter cases, so do the influences of temperature, locality, and occupation change the intrinsic value of words when applied to the quantity as well as to the quality of the food and drink consumed by an individual in a given time. For an amount of either one or the other, or of both, which might be justly regarded as moderation under certain conditions, might with equal propriety merit the title of gluttony and intemperance when indulged in by the same person placed under different circumstances and pursuing a different mode of life in another locality. A self-evident proposition, I should imagine. But in order to prevent all possibility of a repetition of a mistake being made in my meaning, I will digress for a moment and remind the reader of the well-known fact that a man who, while living in London, may be both a moderate eater and drinker, not perhaps from choice, but from constitutional necessity, may no sooner find himself on the bracing moors of the Highlands of Scotland, than he eats and drinks, not alone with impunity, but with actual advantage, a quantity of food and an amount of whisky which would, if taken by him in London, make him actually ill, and justify the terms gluttony and intemperance being applied to him. Hence we see that what would be justly regarded as moderation in eating and drinking under one set of

circumstances might with equal philosophical and philosophical justice be stigmatised as gluttony and intemperance in others.

A precisely similar rule of comparison holding good in the case of Anglo-Indians, I say that those of them who indulge their appetites with the same daily quantities of food and spirituous liquors in India as they with perfect impunity do while in England may, with propriety, be said to be guilty of gluttony and intemperance, from the wants of the system, as well as its capabilities of assimilation being quite different in a hot and in a cold country.

Seeing that it requires but a very elementary physiological knowledge to be aware of this, and I cannot possibly attribute any deficiency on this score to Surgeon-General Moore, the only way I can at all account for his objecting to my statement is by supposing that he attaches a far more vivid signification to the words gluttony and intemperance than I do. In case this supposition be correct, I will here subjoin for his consideration the dictionary meanings of these two English words. In Webster's large and unabridged edition, which I think will be accepted as an excellent authority on the point, gluttony is defined as an "excess in eating; extravagant indulgence of the appetite for food." Now, what does an excess in eating mean? Nothing beyond that one eats more than the wants of the system demand. And if Anglo-Indians while residing in India eat anything approaching the quantity of rich hydro-carbon foods as they do whilst living in England, will anyone, I ask, have the foolhardiness to deny that they eat in excess? unless he be prepared, at the same time, to assert that they take more muscular exercise in India than in England, in order that all the hydro-carbons (which the system has but little use for in hot India) may be burned off. I put this question emphatically. For we not only know that if all the hydro-carbons taken into the stomach be not daily consumed, the residuum, by accumulating in and clogging the *prima via*, deteriorates the constitu-

tion. But we also know that it is particularly that organ whose especial duty is their dispersion, namely, the liver, which suffers.

As regards Webster's definition of the word intemperance, again. It is, "The habitual indulgence of drinking spirituous liquors, with or without intoxication." Here, be it noted, it is not put down as synonymous with drunkenness. On the contrary, a person may be decidedly intemperate, and yet no drunkard. I have known not one, but several individuals who are very intemperate, in the dictionary sense of the word; for they admittedly take what they euphemistically call "nips" at all hours of the day. Yet they assert—and probably truthfully—that they have never in their lives been actually intoxicated. Seeing that to be intemperate, then, neither necessitates nor implies actual drunkenness, I cannot see why Dr. Moore has been so irate against me for employing the word. Especially, too, as he must be fully aware that the indulging in "nips" between meal-times by persons with a predisposition to liver disease, either hereditary or acquired, through the enervating influences of climate, is universally admitted to be a most prejudicial one. Indeed, I fear that, no matter what he may say to the contrary, unless he can give me proof that I err, I shall still consider I am justified in stigmatising this habit of taking nips between meal-times as intemperance when indulged in, as it often is, in various parts of Hindustan. Moreover, my assertion that an over-indulgence in eating and drinking is a source of Indian liver-abscess by no means implies that I accuse all Anglo-Indians of gluttony and intemperance any more than I accuse our own inhabitants of the same propensity. To so interpret my words would not be one whit less illogical than to assert that because steel-grinding is a fruitful exciting cause of phthisis in some of our manufacturing towns, all the inhabitants of these towns are steel grinders—a palpable absurdity, of course. But not more of an absurdity, to my way of thinking, than the rendering the Surgeon-General has thought fit

to give to my statement that gluttony and intemperance are among the chief predisposing causes of abscess of the liver in Anglo-Indians. I even doubt not that I am quite as cognisant of the fact as he is that there are not only many total abstainers among Anglo-Indians, and even some rigid vegetarians, who rather under than over-feed themselves, but likewise, as he states (as an apparently little known fact), that "during the last quarter of a century a greater change has taken place in Anglo-Indian habits of life than even in home habits of life, and Anglo-Indians as a general rule neither eat, drink, nor sleep to excess." The latter assertion is undoubtedly true, for there exist in India two most potent enemies to sleep—heat and mosquitoes. But why he should have taken the trouble to prominently call my attention to the improvement that has taken place in Anglo-Indian habits I am quite at a loss to understand, seeing that what he says is merely a reiteration of what I wrote at p. 242 of my book. Aye, and that, too, I think, in quite as forcible language as he employs. Here are my words:—"At one time nearly one-half of the liver cases coming home to this country from India were directly traceable to an habitual over-indulgence in rich foods and strong drinks coupled with an indolent mode of existence. Fortunately for the livers of Europeans inhabiting the tropics the fashion of drinking strong bitter 'Indian ale,' at all hours of the day, has given place to the less dangerous habit of consuming light French clarets. While at the same time luxurious sofas and wicker lounges have been in a measure abandoned for lawn tennis and football. And as a natural result not only are much fewer 'Indian liver' cases now met with in London, but the cases that are met with, are, in general, of a much milder type than they were between twenty and thirty years ago. Another reason for this change, however, may be that since the communication with India has become so much easier men run home oftener, and when they get ill, as a

rule, they return home earlier, and thus greatly diminish the dangers of Indian service. I am sorry, however, to be forced to add—from my own personal observation—that Indian liver cases are still much more common than they ought to be, or would be, I imagine, if more attention were paid to food, drink, and exercise. For careful inquiries among the Indian liver patients who come to me have led me to the conclusion that, notwithstanding the improvement that has taken place in the habits of Europeans resident in the tropics, there is still room for more. As one and all confess that there is still prevalent an habitual over-indulgence in rich, highly seasoned, stimulating food, both by men and women, while resident in climates so hot as to render it impossible for them to take sufficient bodily exercise to use up all the hydro-carbons admitted into the circulation."

This language appears to me to be explicit enough to have prevented any ordinary reader misinterpreting it.

It may probably not have escaped the reader's attention that while endorsing everything that even the most favourably disposed can say regarding the vast improvement that has in recent years taken place in the habits of Anglo-Indians, I nevertheless insinuate that there still exists room for improvement. As it is possible some one may feel dissatisfied with this suggestion, I venture to inquire of him if, throughout India as a whole (for customs are different in different parts) even yet between meal times there has entirely ceased to be heard within the precincts of Anglo-Indians' (both military and civilian) bungalows calls for delectable "pawnees," "pegs," and "pick-me-ups"? And further, if the mixtures known by these names have become disassociated from stimulating beverages, such as brandy and soda, sherry and bitters, and

what is worse still, that liver-bane, sour champagne, presented to the unwary under the disguised titles of "très-sec" and "brut"? If he can assure me that they are, I shall be delighted to allude to such an important fact in my next edition. Another of Surgeon-General Moore's statements which appears to me not only to be a totally uncalled-for one, but a most unaccountable bill of indictment, when its preamble is considered, is that he, after citing the important statement of Macnamara, that spirit-drinking is conducive to fatty liver and hepatic abscess (which, instead of being in opposition to, is quite in confirmation of my views), assigns as his reason for objecting to what I say regarding the causation of liver abscess that "hepatic abscess cannot, however, be ascribed altogether, or even in the greatest degree, to such causes." Thereby implying that I had done so. While, so far from such being the case, I not only begin the chapter on Abscess of the Liver by saying—"Suppuration of the liver may accrue from a great variety of exciting causes, in any country or climate, as well as at any period of life between early infancy and advanced age." But further on, in the very same chapter, make the following statements (p. 807): "That of the multitudinous and varied exciting causes hepatitis is the most common producer of hepatic abscess." While among the causes of hepatitis I mention (p. 806) gall-stones, inspissated bile, dysenteric and other forms of intestinal suppuration, as well as embolism and climatic malarial influences. Consequently, as hepatitis, in one form or another, invariably precedes hepatic suppuration, it naturally follows that abscesses in the liver have the same exciting as well as predisposing causes as hepatitis.—*Medical Press*, Jan. 13.

MEDICAL MORTALITY.

THE *Lancet* of Saturday, January 30, called attention to an important paper on "Mortality in the Medical Profession," which was read by Dr. William Ogle before the Royal Medical and Chirurgical Society on Tuesday evening, January 26. The paper clearly shows that during the last 20 years there has been a progressively-increasing mortality amongst the medical profession. According to Dr. Ogle's statistics, says the *Lancet*, "medical men die in much larger proportion than other men of corresponding age, of the following chief diseases. The two figures after the disease mentioned show at a glance the deaths per 1,000,000 of medical men and of all other men respectively, thus:—Scarlet fever, 59, 16; typhus, 79, 38; diphtheria, 59, 14; enteric fever, 311, 238; malarial fever, 46, 11; erysipelas, 172, 136; alcoholism, 178, 130; gout, 291, 78; rheumatic affections, 251, 215; malignant disease, 879, 790; diabetes, 284, 108; diseases of the nervous system, 4,565, 4,268; diseases of the circulatory system, 4,142, 2,934; liver disease, 1,744, 744; other diseases of the digestive system, 973, 632; calculus, 86, 30; diseases of the bladder and prostate, 634, 287; other diseases of the urinary system, 1,520, 665; suicide, 363, 238. In regard to phthisis and diseases of the respiratory organs, medical men compare very favourably with other classes."

Dr. Ogle did not, in his valuable paper, enter into the reasons for the deaths from different causes, but a reference to the remarkable report which he recently addressed to the Registrar-General would readily suggest to a reflective reader what one of his reasons would have been if he had thought it expedient to state them. In that report, when dealing with the influence of alcoholic excess upon mortality, Dr. Ogle remarked that the mortality ascribed to alcoholism was a "very imperfect measure of the intemperance prevailing in different industries," and "that a better measure

is the mortality from diseases of those organs which are known to be seriously affected by alcoholic excess, and which can be stated in certificates of death to have been diseased without fear of offence. Pre-eminent amongst such organs is the liver; for, though alcoholic excess appears to affect injuriously every tissue and organ in the body, it is upon the liver that its effect is most marked, the mortality from hepatic diseases being six times as high among innkeepers and publicans, and two and a half times as high among brewers, as among the generality of males." Dr. Ogle gave a table of mortality in different occupations, which, he says, "shows this very clearly. Certain causes of death have been taken, and under each of them those trades in which the mortality exceeds or equals the average have been arranged in order, beginning with the one in which the mortality is highest. There are seven headings in the table, and it will be noticed that under no less than three of these, viz., alcoholism, liver disease, and gout, innkeepers head the list, while they stand as high as third in three of the four remaining columns, viz., under diseases of the nervous system, diseases of the urinary system, and suicide. Moreover, in one of these three, viz., diseases of the urinary organs, the list would be headed by innkeepers, were it not that file-makers and painters, who stand above them, suffer from another special cause of renal disease, viz., lead poisoning. The table tells its own story so unmistakably that it is scarcely necessary to do more than point out that the same occupations recur again and again in the several successive columns, and that very generally an occupation that stands high in one column stands also high in the others; leaving no reasonable doubt that a very large proportion of the mortality from the several diseases included in the table is due to drink."

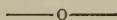
If our readers will take the trouble to compare the diseases named by Dr.

Ogle as contributing to the high mortality of publicans, with those which have been specially fatal to medical men, he will discover a striking similarity, amounting almost to identity, between the causes of increased mortality amongst the two classes. This suggestive fact has not escaped the notice of the *Lancet*, which says:—

“The part of Dr. Ogle’s paper that needs the most serious consideration is that which seems to show the greater liability of medical men to gout, liver disease, urinary disease, &c. This is largely to be explained by the irregularities of medical life and feeding, and the tendency of a busy and worried medical man to put himself off with a hasty glass of wine or beer instead of a regular meal. Dr. Parkes used to measure his alcohol in a minum glass. This is a lesson of medical science in regard to alcohol, and to no man is it

of more importance than to those who have so many more risks and so few more comforts than other men.”

We have often in these pages urged medical practitioners to abjure strong drink in order to set a good example to their patients, but in the significant facts revealed by Dr. Ogle we have new and important reasons for advising them with all seriousness to become abstainers for the sake of their own welfare, and that of the wives and children who are dependent upon them. If medical men are specially exposed to dangers and perils that are inseparably connected with their noble profession, they ought all the more rigidly to avoid the preventable causes of disease and death which are undoubtedly associated with the ordinary use of intoxicating liquors.—*Temperance Record*.



MORTALITY OF BREWERS, PUBLICANS, &c.

THE mortality of men who are directly concerned in the liquor trade is appalling; the comparative mortality figure for brewers being 1,361; for innkeepers, publicans, and generally all dealers in spirits, wines, or beer, 1,521; and for inn and hotel servants no less than 2,205; whereas for maltsters, who only are concerned with the materials and not with the liquor itself, the figure is only 830. The death-rates for inn and hotel servants were much higher in 1880-82 than in the former experience, whereas the death-rates of the brewers and the publicans, high as they are, nevertheless show a not inconsiderable reduction.

It is well, whenever the opportunity offers itself, to test the accuracy of our death-rates by comparison with data derived from independent sources, and in the case of the innkeepers and publicans such comparison is possible. By the experience of the Scottish

Amicable Life Assurance Society* (1826-76), the mortality of males occupied in this business was 68 per cent. in excess of the Actuaries or Healthy Male Table, and 49 per cent. in excess of the English Life Table (No. 2, Males). This result tallies very closely with the figures in Table L, where it appears that the mortality of the innkeepers is 52 per cent. above the present mortality of all males.

That this terrible mortality is attributable to drink might be safely assumed *à priori*, but the figures in Table L render it incontestable. The mortality attributed to alcoholism itself is far higher for innkeepers and publicans than for any other industry, and more than five times as high as the average; that for brewers falls far short of this, but nevertheless is the

* “On the Mortality among Publicans,” &c., by John Stott, *Journal of Institute of Actuaries*, 1876.

next highest to that of innkeepers, with the single exception of cabmen. Under the heading liver diseases, the mortality of innkeepers is no less than six times as high as the average, and more than twice as high as that of brewers and of butchers, who come next in order in this respect to innkeepers. The innkeepers again, show the highest mortality in the table from gout, and, putting aside trades in which there is lead-poisoning, from diseases of the urinary organs. The brewers also show great excess of mortality, though in a less degree, under these headings. So also is it under the headings suicide, diseases of the nervous system, diseases of the organs of circulation, phthisis, and diseases of the respiratory organs; there are, in short, no organs apparently that are not more or less seriously damaged by the excessive use of alcoholic drinks, though the liver appears to suffer most. The mortality of the brewers from all causes, though greatly in excess of that of most industries, is considerably lower than that of the innkeepers and publicans. This is probably due to the fact that, whereas the brewers chiefly consume malt-liquor, the innkeepers and publicans take not only beer but spirits. The occupation of the brewers, moreover, entails much more muscular exercise than does the sedentary business of the other occupation. This difference of mortality between brewers and innkeepers accords with the results of the inquiries and calculations made by Mr. Neison, who found that

the annual mortality among persons who were given to intemperate indulgence in fermented liquors was very considerably less than among those who indulged similarly in distilled liquors.* It may be worth noting that a comparison between Mr. Neison's figures† and our own comparative mortality figures shows that a large proportion of the innkeepers and publicans and the brewers must be of temperate habits; for whereas the comparative mortality figure of innkeepers in our table is 1,521, and that of brewers is 1,361, that for recognised intemperate persons, according to Mr. Neison's data, would be 3,240. If we suppose innkeepers and publicans, as also brewers, to be entirely made up of such intemperate persons as were the basis of Mr. Neison's calculations and of persons resembling the average of all males, then it would follow that 23 per cent. of the innkeepers and publicans, and 16 per cent. of the brewers were of intemperate habits.—*Supplement to the Forty-fifth Annual Report of the Registrar-General.*

* "Contribution to Vital Statistics." F. G. P. Neison, 3rd edition, p. 218.

† Mr. Neison's figures are for all males over fifteen years, whereas ours are for males between twenty-five and sixty-five. He found that 357 deaths occurred among intemperate males, whereas there should, by the average of all males, only have been 110·2; in other words, there were 3,240 instead of 1,000.

Society for the Study and Cure of Inebriety.

QUARTERLY MEETING, JANUARY, 1886.

THE quarterly meeting of this society was held on Tuesday, 5th Jan., in the rooms of the Medical Society of London—the President, Dr. Norman Kerr, F.L.S., presiding.

THE PRESIDENT, in proposing a vote

of condolence with the relatives of Dr. W. B. Carpenter, F.R.S., referred to the distinguished career of their deceased fellow-member, and to the great services he had specially rendered to their society.

The President then read the following Communication:—

INEBRIETY IN AUSTRIA.

BY CHEVALIER MAX PROSKOWETZ DE PROSKOW-MARSTORFF, OF VIENNA,
President of the Austrian Society for the Study and Cure of Inebriety.

(a) The Austrian Anti-Alcoholism Society tries to have the number of brandy-shops settled by authority in a strict and appropriate portion to the cipher of inhabitants. The margraviate of Moravia contains 9,700 brandy shops for 2,153,000 inhabitants—viz., one brandy-shop for 222 inhabitants. We try to effectuate, as a rule, that one brandy-shop should be licensed by 500 inhabitants—that is to say, our work endeavours to diminish the brandy-shops by more than the half of them.

(b) The number of drunkards arrested in Vienna by the police department was:—

5,955 in 1881

6,349 in 1882

5,878 in 1883 = (5,338 men + 540 women)

6,555 in 1884 = (5,771 men + 784 women).

(c) We try to generalise a regulation for factories, by which the introducer of brandy is punished by a penalty equal to the double of a day's payment. A drunken workman is punished with the quadruple of a day's payment.

The high commissioner of manufactures seconds our propositions.

(d) The society has propagated a good deal of pamphlets in German and Tchegne (Bohemian) language.

(e) We promote the selling of warm tea (one penny a cup) by means of circulating cars (Ph. C. Koller's patent) in the suburbs of Vienna. M. Koller sold in this way in Prague (the head town of Bohemia) from January 1st, 1880, till April 30th, 1882, 246,842 cups of tea, 8,816 a month in average, representing a total of 7,405 Austrian florins = £124 English money, equal to 37,026 litres of brandy, 822·8 gallons (*i.g.* = 4 quarts). One gallon of brandy is generally sold here at 1½ shillings.

(f) We try to prevent the selling of spirits of a bad quality.

We held investigations on the liquor qualities, and found that liquors were sold which contained above 17 grammes of corrupt constituent parts by one gallon.

Our law, not forbidding the keeping open of brandy-shops on Sunday, we promoted petitions to the representatives of the empire to shut all brandy-shops from Saturday night (six o'clock) to Monday morning (seven o'clock). We endeavour to have the taxes increased for spirits in the towns, the small trade in brandy being a very lucrative one. It is a fact that shopkeepers of that kind earn 2½ shillings clear gain by one gallon of spirits (distilled essence). The brandy-shops ought to be shut at ten o'clock at night till seven o'clock in the morning. Payment to workpeople to be given on Mondays to prohibit drinking.

Debts for consumption of spirits are not to be prosecuted in law-suit. Retailing liquors to individuals under the age of sixteen, to drunkards and other persons not in their full mind, to be punished.

The regulations of retailings to be placarded in every shop and brandy-house. Retailing of spirits to be strictly separated from retail shops and those dealing in other wares. Inebriety not to be considered a reason for mitigation against drunkard criminals. Habitual inebriates to be declared minors, and transported to medical establishments (in the German style). Brandy to be prohibited in canteens, works, men-barracks, and so forth. The taxes of distillers to be raised. The tax for distilled wares is but the twenty-second part (in Germany) of the corresponding English tax.

There is one brandy-shop to 59·21 inhabitants (children, women included) in Bohemia.

The Courts of Justice in the dukedom of Bukowina (Austria) have punished (in the years 1878-1883) 20,713 individuals a year for inebriety.

The kingdom of Galicia (Austria) had (from 1878-1883) 132,403 individuals punished on account of inebriety.

The leading men of Corinthia (Aus-

tria) held a meeting, the Governor of the dukedom, Baron Schmidt, presiding, in the month of September, to consider Chevalier Edlmann's motion on checking inebriety.

The Austrian Parliament followed a motion on the *funeste* consequences of inebriety, seconded by Chev. de Proskowetz, on March 13th, 1885.

The industrial town of Trautenau (Bohemia) has a consumption of 3.6 gallons a head of brandy.

The law of March 8th, 1885, prohibits very strictly the giving on credit brandy to work-people, on account of their due payment.

On the motion of the President, seconded by Surgeon-Major Poole, a vote of thanks was awarded to Chevalier de Proskow-Marstorff for his interesting and valuable communication.

THE HABITUAL DRUNKARDS ACT.

Dr. A. PEDDIE, of Edinburgh, then read the Paper on the Habitual Drunkards Act, which is given in full at page 139.

The PRESIDENT said that the Act was not valueless, as some supposed. There was a basis of fact in the Dalrymple Home, which, when presented to Parliament, would show that there was in the Act of 1879 the germ, which might be extended in the direction indicated by Dr. Peddie, in which case it would be made of great value. He agreed with him as to the deterrent influences of the present legislation upon inebriates wishing to place themselves under its provision.

The Rev. Canon BARKER, Rector of Marylebone, said he was a convert to the views of this society. He was quite convinced that some persons could not recover without confinement of some sort. He agreed with the remark of the president that it was absurd to place such difficulties as the present Act offered in the way of those who wished to go into retreats. Their present duty was to educate public opinion, and it was futile to expect that reformation could be accomplished without restraint. Nothing could be more satisfactory than the Home at Rickmansworth, and he wished that more of such might be established.

Dr. FARQUHARSON, M.P., said that the paper was one which not only pointed out the defects of the Act, but indicated where it might be improved. When persons had passed into the dipsomaniac class the State should take them in charge. He did not agree with the remark in the paper that it would have been as well if the Bill had been altogether withdrawn. He thought that even with the absence of the compulsory clause the passing of the Bill was a decided step in advance. He was of opinion that the provision by which a person wishing to have himself restrained was required to go before the magistrates, was imposed to avoid the undue influence of friends who might wish relatives confined from improper motives. There was an intense feeling against anything that interfered with the liberty of the subject, and this feeling would be more pronounced the more popular the Parliamentary representation of the people became. He concluded by moving a vote of thanks to Dr. Peddie, who had come all the way from Edinburgh to attend this meeting and read his paper.

Dr. T. STRETCH DOWSE was inclined to believe that there would be the greatest difficulty in getting an Act of Parliament sufficiently stringent to deal effectually with the dipsomaniac class. He was anxious, speaking from the medical, the philanthropic, and the public point of view, to be able to confine dipsomaniacs *volens volens*, and was glad to hear of the success of the Dalrymple Home. He concluded by seconding the motion.

Mr. MORGAN said that for over thirteen years he had kept a home for lady dipsomaniacs, but during all that time he had not found one lady in ten who would admit that she was a drunkard.

Mr CARSTEN HOLTHOUSE said that where the patients voluntarily entered a home there was much more chance of their cure. The worst cases were those of disease, but in others it was merely a bad habit.

Dr. LONGHURST said that reformatories for the poor should be established.

The motion was carried unanimously, and Dr. PEDDIE replied.

British Medical Temperance Association.

—o—

President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.

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Cork.

| V. L. WATTS, Esq. (T. C. D.), Dublin.

NOMINATIONS.

All nominations for the offices of President, Member of Council, Hon. Treasurer and Hon. Secretary of the Irish Branch for the year 1886-87, must be sent to the Honorary Secretary, not later than April 30, 1886.

NOTICE.

Members and Associates whose subscriptions for 1885-86 are not yet paid, are requested to send them at once to the Honorary Secretary of their Branch.
Enfield, March, 1886.

J. JAMES RIDGE, M.D., *Hon. Sec.*

THE MEDICAL PRIZE ESSAY.

PRESENTATION OF THE PRIZE OF 100 GUINEAS.

On Friday, 22nd January, a select audience assembled in the rooms of the Medical Society of London, in Chandos Street, on the invitation of the Medical Temperance Association, to witness the presentation of a prize of 100 guineas to the writer of the best essay on the advantages of total abstinence from a medical and general point of view in the competition that has recently taken place. Dr. Richardson, F.R.S., presided.

Dr. RIDGE made a preliminary statement. He said that last November, at the suggestion of the President, the Council resolved to issue a notice to medical students throughout this kingdom that a prize of 100 guineas would be awarded for the best essay on the moral and physical advantages of total abstinence from intoxicating liquors. The essays were to be sent in by the end of March, 1885. In response to that, thirty-nine essays were submitted to the following judges:—The Lord Bishop of London, Sir R. E. Webster (the Attorney-General), Dr. Richardson, Dr. Norman Kerr, and himself. The essays were read through separately by the judges, and a certain number of them were selected as those to one of which the prize would be awarded. Of these, four were specially chosen as being worthy of honourable mention, and of the four the first prize was unanimously awarded to that bearing the motto, "Ohne Hast, ohne Rast," by Mr. H. A. W. Coryn, Charing-cross Hospital. The other three were, "Deo Valentes," by Mr. R. W. Boyce, University College Hospital; "Morir por no morir," by Mr. A. E. Norburn, Guy's Hospital; and "Mens sana in corpore sano" (1), by Mr. H. Gilford, Guy's Hospital.

The CHAIRMAN: It is now at once my honour and my pleasure to make these presentations. Two gentlemen who have received certificates of honour in regard to this prize—Mr. Gilford and Mr. Norburn—are not able to be present, but Mr. Boyce, who also received honourable mention, is in the meeting. He is the author of the essay

bearing the motto, "Deo Valentes," and I will ask him to accept the prize. Each of the three essays were so good that we had great difficulty in determining which of them should have the full prize. We met many times before we completely decided. In fact, it was not until the last moment that we did decide. We met for a further re-reading, and we came to the decision that the essay which had gained the prize was that by Mr. Coryn, the son of a London medical man. We decided that the other three were of such merit that we were anxious that some recognition should be made, so that we have awarded these three certificates, which are small, as a recompense, but which may show how close they were to winning the larger prize. The essay by Mr. Boyce is a good epitome of the subject, written in exceedingly nice style, and showing a vast amount of reading and knowledge. It is with great regret that I am only able to present him with this single return for all his work.

Mr. Boyce, who was received with cheers, was handed his certificate by the President.

The PRESIDENT asked Mr. Coryn to step forward and receive the prize. Addressing him, he said:—"I know what it is to be a prize winner, and therefore can well understand your feelings to day. All the judges—and the names of some of the judges will be remembered by you for life—were unanimous that you should receive this prize. We were all delighted with your essay, thinking it showed real genius, and we are quite sure that if you progress in the cause of temperance as you have begun, and work at the same time in the cause of science, this will be the very smallest of the distinctions which you are sure in the course of your life to receive. Do not think of the money value altogether, but regard it as a hard work for honour, which will remain attached to your name as long as you live."

The PRESIDENT then handed a certificate with the sum of 100 guineas

to Mr. Coryn, who received it amid the cordial plaudits of the entire meeting; after which the President delivered the able address upon "Temperance and Young Physic," which is given in full at page 147.

Mr. FRANK DEBENHAM moved a vote of thanks to the adjudicators, and said that the three most learned professions had been about equally represented on that Board—the ecclesiastical, the medical, and the judicial. It was difficult to know to which profession the temperance cause owed most. It was difficult to understand how these gentlemen could, in their multifarious engagements, have found time to read through those thirty-nine essays. It was a happy omen for the future of the cause that such an essay should have been produced.

Mr. JOSEPH PETERS seconded the motion.

The CHAIRMAN, in putting it, said the services of the latter gentleman were most important, though they had been unseen.

The motion was carried unanimously.

Dr. KERR replied, and said the most gratifying part of the whole competition had been that so many medical students had thought it worth while, and considered the claims of this great question so paramount, that they had thoroughly and practically investigated it. The result would be astonishing to the friends of temperance if all the essays were published. This was only another straw to show in which way the wind was blowing. The chief advantage of total abstinence as he saw it was that the good man might labour more for his kind and for his Creator, by abstaining from intoxicating liquors than by taking them in moderation. The temperance battle was not against drunkenness, but against the ordinary habit of taking intoxicating liquors moderately, and unless they clearly recognised that, their labour to a large extent would come to naught. The adjudicators had had great pleasure in reading the essays, and had derived instruction from them.

Mr. FRANK WRIGHT moved a vote

of thanks to the President for his address, and referred to the immense services he had rendered to the cause. An address more elevated in purpose, more warm in its enthusiasm, and more consecrated in the object which it had in view, had perhaps never been read within these walls. It was one of the great merits of Dr. Richardson that whatever he did he did vigorously, and whatever might be the scientific and classical merits of the address, there was running through it all the golden thread of a holy purpose.

Dr. RIDGE seconded the motion, and said he hoped that some means would be taken to bring the essays under the notice of the medical students of the United Kingdom. Many of them would no doubt be influenced by it. It was calculated to do much good, and he felt sure that in the coming generation of medical men there would be some who would influence their patients and their neighbours in the cause of temperance through the inspiration they derived from the reading of this essay. The essayists, he could say, in the competition had shown a thorough grasp of their subject. They brought forth an enormous amount of testimony, much of which, though a diligent reader in temperance matters, he had no idea existed before.

The motion having been carried unanimously, the PRESIDENT said that in reading over the essays he had met with some exceedingly happy suggestions. He thought that two at least of the essays should be published in addition to the one which had received the first prize. It was most interesting to see how the Bishop of London approached the task from the view of the scholar and the schoolmaster; the Attorney-General from the judicial point of view; and so with regard to his other colleagues from their several standpoints. Their ways of looking at the essays were full of interest and usefulness to him. Altogether he had to thank instead of being thanked. He ventured to think, in regard to the general question, that there would be a time in the history of this movement when it would be the wonder of the world why all this fuss was made about

it; they would say—what could it mean that there should have been such opposition, such prejudice, and such feeling to overcome? It was so clear that they were right. He trusted that this state of things would be experienced in the lifetime of the rising medical students of to-day; and if the short address that he had read should influence one in this direction then he should have done some ser-

vice. At all events, he was very grateful that the meeting seemed to think that there might be more than this number influenced, and also in the thought that that influence was not for to-day or to-morrow, but for the progress of the world as long as it lasted, until the light which we wished to spread was lost in the light that was produced.

The proceedings then closed.

THE SPRING QUARTERLY MEETING.

THE Quarterly Meeting of this Association was held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Tuesday, 23rd February, Dr. Norman Kerr in the chair.

THE DALRYMPLE HOME.

The CHAIRMAN read a short paper on the "Results of Two and a Half Years' Experience at the Dalrymple Home." This retreat, he said, has now been open for the reception of patients for two and a half years, and the past twelve months have yielded results fully as satisfactory as those which were reported in March, 1885. The Home had nearly always been as full as the comfort of the patients would permit, and many applications for admission have been reluctantly refused. As the proprietary is quite disinterested, no one of the members of the Association, to whom the establishment belongs, being allowed to derive any pecuniary profit therefrom, this is an institution for purely curative purposes. Moreover, as the records have been carefully kept and published, and the Home itself has been repeatedly inspected and visited by responsible officials and well-known temperance reformers, the results may be fairly accepted as the outcome of scientific treatment of a veritable disease, the patients having been under the immediate care of the accomplished medical superintendent, Mr. R. Welsh Branthwaite. During the two and a half years which have elapsed since the

Dalrymple Home at Rickmansworth was opened, 78 inebriates have been admitted. Of these 41 were received privately, and 37 under the provisions of the Habitual Drunkards Act. Age: There were 20 between twenty and thirty years, 33 between thirty and forty years, 18 between forty and fifty years, and 7 between fifty and sixty years. Residence: There were 60 from England (London, 29; provinces, 31), 3 from Scotland, 6 from Ireland, 2 from France, 1 each from Switzerland, Cape Colony, Australia, New Zealand, the United States, Canada, and South America. Religion: 73 were Protestants, 5 Roman Catholics. Education: All were educated, 16 having passed through a college curriculum. Marriage: 39 were married, 6 widowers, 33 unmarried. Occupation: clerks, 11; gentlemen of no occupation, 19; doctors, 7; 1 medical student; lawyers, 5; merchants, 5; stock-brokers, 2; commercial travellers, 2; with engineers, cotton manufacturers, 1 farmer, &c. Heredity (clearly traced in 37 cases): 14 in father or mother, 6 in grandparents, 9 in brothers or sisters, 8 in uncles or aunts. Associate habits: Tobacco in 66, with chloral in 3, morphia in 2, and opium or chlorodyne in 3. Drinking habit: Regular in 40, periodic in 38. Of the latter 5 had an outburst about every week, 2 every two weeks, 4 every three weeks, 4 every four weeks, 4 every six weeks, 6 every two months, 6 every three months, while 7 were very irregular. The average addiction was eight and

a half years. Thirteen had had 1 attack of delirium tremens, 4 two attacks, 3 three attacks, and 1 five attacks. Seventy-two were social and 6 solitary inebriates. Kind of liquor: 23 preferred whisky, 3 brandy, 4 gin, 2 wine, 2 wine and beer, 4 beer, 15 beer and spirits, 17 all kinds of spirits. Residence in retreats: Sixteen had been once in a retreat, and 2 twice. Exciting cause: With 28 sociability, with 26 some kind of nerve shock (domestic or business), with 7 idleness, with 6 influence of occupation, with three surgical injury. Complicated diseases: 5 bad phthisis, or other chest affections; 7 rheumatism or gout; 8 specific disease; 3 dyspepsia; amaurosis, 2; phosphatic calculi, 1. Of those who had left the home, 50 were discharged through efflux of time, 4 from illness, and 6 as not answerable to treatment. The average length of residence at Rickmansworth was six and a half months. Of the 60 who have been discharged since the opening of the Home (leaving out of reckoning one who has become insane, three who have died, and 12 who have not been heard from), nearly one half have done well. Over 30 per cent. additional have been improved; so that between 75 and 80 per cent. have received decided benefit. Of the twenty-nine admitted during the year, ten entered for the term of twelve months, the shortest period of residence which can be unreservedly recommended. Not more than twelve of the twenty-nine admissions were under the provisions of the Habitual Drunkards Act, a fact fairly attributable to the deterrent operation of the appearance before two justices. In the United States of America no such obstructions bar the way into a home for inebriates. A simple contract with the officially recognised licensee is, in that country, found to answer every purpose. The entrance of a patient desirous of self-protection and of cure, ought to be rendered as little forbidding as possible.

Dr. LORD opened the discussion by saying that the previous evening he heard an organising secretary of the Church of England Temperance So-

ciety—a lady, the daughter of a doctor—on a public platform advising the people to smoke, but not to begin too early. He could say distinctly from experience and observation that smoking led to drinking.

Dr. DRYSDALE said that smoking was a great cause of dimness of sight, and was the most useless practice in society.

Dr. RIDGE commented upon the “iniquitous proceedings” of the organising agent referred to, who recommended the use of tobacco, and said that this society should strongly protest against such advice being given indiscriminately to young or old. The fact that most of the inmates of the Dalrymple Home were smokers did not prove that this was the cause of their addiction to drink, but just that the persons most easily brought under the influence of the drink craving represented the self-indulgent class. The fact of all the people in the Home being educated, some of them university men, and others medical men, ought for ever to explode the idea that education was a safeguard against the snare of drink.

Dr. KERR, in replying, said that the fact of so many medical men being in the Home proved that that they knew how beneficial to the inebriate such a residence was.

ALCOHOL IN HOSPITALS.

Dr. C. R. DRYSDALE read a paper on “Alcohol in Hospitals,” which is given in full at page 129. In introducing his paper, Dr. Drysdale said: When it was suggested that I should collect materials to open a debate on the Use of Alcohol in Hospitals, I was appalled at the thought that the time before me for making inquiries was so brief. Fortunately, I had not in this case, I discovered, to do what I formerly did in an inquiry on the statistics of insurance companies, *i.e.*, to write to the various secretaries of London and provincial hospitals. All this work has been done, and splendidly done, by Dr. Norman Kerr, by the Rev. Dr. Burns, Dr. Clarke Hare, and, most recently, by Mr. Geo. Sturge, of Sydenham Hill. These gentlemen, I

find, have left me little to say, except to endeavour with their aid to give an account of the reason of the rise, decline, and probable further fall of the belief in alcohol as a therapeutic agent in hospital practice.

Dr. LORD agreed with almost everything that the reader of the paper had said. Alcohol had no place, in his opinion, in food or physic. For eight years he had not prescribed a drop, and had succeeded in curing diseases that he could not cure before. He hailed the opening of the Temperance Hospital as an experiment, the effect of which would be to prove the medical inutility of alcohol.

Dr. RIDGE said that some hospitals did not include alcohol in the regular dietary. He recommended friends of the cause to establish Temperance dispensaries. The Temperance Hospital was doing a world of good by having an out-patient department. He wished to suggest the adoption of the following resolution:—"That this meeting desires to record its emphatic protest against the inclusion in hospital ordinary dietaries of any form of alcoholic liquor, the indiscriminate supply of which is dangerous to reclaimed drunkards, gives rise to an erroneous view of the value of alcohol as a strengthening agent, and is a wasteful expenditure of charitable funds."

This resolution was moved by Dr. DRYSDALE and seconded by Dr. RIDGE.

The discussion was continued by Dr. ADAMS, and by Dr. PEARCE, of St. Mary's Hospital.

Dr. PARAMORE said it was ridiculous to compare the mortality of the London Temperance Hospital with that of the other hospitals. Other hospitals opened their doors to admit anybody and everybody, even when near death, whereas the London Temperance Hospital did not.

Dr. R. MARTIN, of Manchester, said it was simply scandalous to find that where so large a number of persons went into hospital as the result of their intemperate habits the use of alcohol should be kept in countenance, and that the patients should be encouraged to continue a practice

which in the past had been so injurious to them. He said deliberately that just in proportion as alcohol had been administered even carefully by medical men to hospital in-patients so had the mortality been; he was convinced from long experience in and out of hospital that the non-alcoholic treatment produced the most satisfactory results.

Dr. NORMAN KERR said that while reasonable allowance ought to be made for the varying methods of treatment and the variety of medicinal agents used by medical men, who on exercising independent judgment must exhibit some differences of opinion and of action, the most ample allowance could not explain such astounding contrasts as were presented by the cost for intoxicants at certain hospitals. This ought not to be. The great profession of medicine ought to prescribe such powerful and dangerous drugs with care, precision and deliberation. They all knew that intoxicants were dangerous remedies, intrinsically, because the reactionary fever which was apt to follow their administration was frequently perilous. Another danger lurked in the latent tendency to excess in the persons of those, whether abstainers or non-abstainers or reformed drunkards, who were, by alcoholic heredity or otherwise, prone to be goaded to after indulgence by the "least taste in life" of their physical *bête noir*—alcohol. For these and various other reasons, alcoholic drinks could not be resorted to except at some risk. All intelligent and high-minded medical men ought, therefore, to resolutely act on these golden rules—(1) Never to prescribe an intoxicant if any other medicinal agent will answer the purpose. (2) When ordered, the exact dose and the time it is to be taken to be prescribed, the potion not to be continued unless the prescription be renewed. (3) The intoxicant, if possible, to be given, not as brandy, &c., but in a medicinal mixture.

The reader of the paper having replied, the resolution was put and carried unanimously, and the meeting then broke up.

THE
MEDICAL TEMPERANCE JOURNAL,
July, 1886.

Original Contributions.

DIETETICS AND DYSPEPSIA.

THE EFFECTS OF ALCOHOL ON DIGESTION.

By R. MARTIN, M.D., *Manchester.*

NEXT to the opinions of a candid and intelligent friend, a wise man values those of a candid and intelligent opponent. There is nothing which invigorates the mental faculties like moderate opposition. A man of robust habits faces with a keen relish the bitter biting of the wintry wind, and gains new life therefrom. Where people have matters all their own way, they mentally and morally degenerate; gradually they come to dread exertion, they seek to protect themselves from the trouble of thinking and of reasoning by clinging to old antiquated dogmas, and shun controversy because they are unaccustomed to it, and therefore have not the vigour or skill which are essential to effective assault or defence. People who coddle and pamper themselves, emasculate; they are on the downward road which leadeth to destruction. A clever general knows that there is nothing which tends more to develop the efficiency of his troops, than frequent collisions with a brave enemy.

One of the greatest dangers which could threaten the Temperance movement, would be the absence of clever opposition. Adverse criticism, therefore, so long as it is anything like fair, is most welcome. One of the latest and one of the ablest opponents of the total abstinence movement is Sir William Roberts. In his lectures on Dietetics and Dyspepsia, he is supposed by many persons to have made out a very strong case in favour of the dietetic use of alcohol. In the *Medical Temperance Journal* for January last, Dr. Ridge briefly, but acutely, criticised some of

the weak points and erroneous inferences which he found in the lectures. I do not intend going over the whole of the ground so ably traversed by him. My object is chiefly to point out some of the physical and moral evils to which Sir William's teaching would inevitably lead, were it generally adopted.

The author commences his lectures with some remarks on the very great prevalence of dyspepsia, and the suffering it causes. But the question arises, why should this most deplorable state of things exist? The lecturer tells us in forcible language that:—"The digestion of food is at bottom, perhaps, the most simple of all our functions." Further: "The articles of our food . . . consist fundamentally of a few common alimentary principles, which can be counted on the five fingers." Moreover: "Both in regard to his digestive juices, and the alimentary principles submitted to their operation, man does not differ in any essential particular from the lowest animals." Such are the very reasonable propositions placed before us.

But the lower animals, notwithstanding their very limited intelligence, when left to themselves, rarely suffer from dyspepsia, whilst men and women, with their great powers of observation, their capacity for choosing between good and evil, and their ability to seize on the one and avoid the other, suffer untold misery. How is this extraordinary anomaly to be explained? We are told, "it would seem as if the function of digestion were less perfectly adjusted, and its equilibrium more easily disturbed in man than in the lower animals." This is merely fancy; what we want is fact, and sound inference therefrom. "The cause of this discrepancy," says Sir William, "is to be sought partly in the quicker and more universal sympathies of his nervous system, and partly and chiefly in the extraordinary complexities which civilised man has introduced into his dietary." Perhaps what is meant by "the quicker and more universal sympathies of his nervous system," is that man is more liable to suffer from care and anxiety than are the lower animals. But on the other hand it may be asked, is it not true that man, with his "Godlike reason," as Shakespere describes it, "looking before and after," possessing the power of assessing his past experience and of providing for future wants, should, to say the least, be as free from harassing cares as are the brutes? The truth is, man is too often the victim of his own evil doings; he seeks his pleasure in sensual gratification. He lives to eat instead of eating to live. Wrong-doing ever brings disappointment and sorrow. The lecturer comes vastly nearer hitting the mark when he says, in reference to "the extraordinary complexities which civilised man has introduced into his dietary," "He has departed widely, and is departing more and more, in regard to his food" (Sir William

might well have added, still more in regard to his drink), "from the simplicity and uniformity of his primitive nature." This, however, does not wholly explain the discrepancy, as we shall see presently.

After referring to certain complexities associated with the cooking and choice of food, we are reminded that: "We use a number of condiments with our food to which the lower animals are strangers—salt, vinegar, curries, spices and sauces of all sorts."

But this is not all: "By far the most remarkable departure on the part of man in regard to his food, from the common ways of the animal world, is the practice he has acquired of using in large quantities certain articles of a stimulant or restorative character, of which the chief are alcoholic beverages and tea and coffee." Sir William does not commit the blunder so frequently made by medical men; he expressly says:—"These articles are not themselves endowed with nutrient properties; but inasmuch as they are taken with food, and mingle therewith in the digestive passages, they directly complicate the task of the digestive organs."

Sir William relates a number of chemical experiments, in which he examined the action on digestion of many of these supposed accessories or aids, which "are consumed by us in enormous quantities, and at a prodigious cost." The general outcome was that none of them in any but the slightest way, if indeed at all, aided digestion.

For a very long period physiologists and physicians declared that alcohol was a food, and it was implicitly believed that ardent spirits, wines, and beers, promoted digestion. The former belief went by the board some time ago, and now Sir William Roberts most effectively gives the *coup de grâce* to the latter. Up to the present time the vast majority of the people of this and many other countries have worshipped tea and coffee for their supposed beneficial properties, but are now told that in an important manner both tea and coffee obstruct digestion, and that what is called "a good cup of tea" is a bad thing. Many of the more intelligent abstainers from alcohol will thank Sir William for this most heartily; the attention they were led to give to the subject of dietetics led many of them long ago to question whether, on hygienic grounds, they should not abstain from tea, as well as from alcohol, and only the fear of disgusting their friends and acquaintances with total abstinence from alcohol, prevented many of them from dispensing with their use. But total abstainers, whilst recognising the injurious effects of "good tea" distinctly kept in mind the vast difference which exists between the evils of tea and alcohol. Sir W. Roberts, strange to say, seems to make no such distinction. Nay, he appears to think that of the two, tea is the worst. About the only good word he says on behalf of tea is that,

since it and coffee came generally into use, beneficial changes have occurred in Europe; but he includes both tobacco and alcohol with the two others, and makes thus an unpleasant mixture. Sir William is evidently intent on rehabilitating alcohol; he loses no opportunity of saying a good word on its behalf, or of minimizing its ill effects. We are told that, "The use of alcoholic beverages is a marked characteristic of the diet of the European and the other progressive races." On the other hand, "There are certain inferior races who appear to be altogether intolerant of alcohol. Either it does not suit their type of nutrition, or they lack the self-control which is necessary to its beneficial use." What should we think of a Mandarin who declared that "The use of opium is a marked characteristic of the Asiatic and other progressive races"? or of a Turkish physician who wrote:—"There are certain inferior races who appear to be altogether intolerant of opium. Either it does not suit their type of nutrition, or they lack the self-control which is necessary to its beneficial use"? We should smile at the ridiculousness of the idea involved, that an article diametrically opposed to national progress, could be an aid thereto, and pity the people who sought their enjoyment in the use of an article so fertile of misery. An English physician would revolt against the idea of recommending the use of laudanum, or morphia, or nepenthe, as beneficial to healthy men and women. He knows that these agents exert an insidious, a seductive, often an infatuating and enslaving influence over vast numbers of those who use them. But alcohol steals as insidiously on its victim as does opium; its fascination for large numbers is as great, whilst its maddening effects are even more terrible. Why are not English physicians more consistent in their general practice?

Whilst thanking Sir William Roberts for the careful and comprehensive series of experiments which he has made and described, I cannot but express the amazement and regret I feel at the position which he has taken up. Admitting that alcohol is to some extent useful as a medicine, it is notorious that it is extremely dangerous; in multitudinous cases it proves an unmitigated curse. Its common use produces directly and indirectly, an unspeakable amount of disease, misery, infamy, and death. No class of men in the whole community see this so clearly or so constantly as medical men. No others can estimate so thoroughly the extent, the prevalence, and the malignancy of the evils which the use of alcohol leads to in our midst. No class of men understand so well how the craving for drink is slowly developed, or how the love of drink, snake-like, winds itself around its victim before it strikes the fatal blow. Are those who see so clearly the sources of the nation's peril, guiltless, if they fail to

raise an alarm? Unquestionably they are not! The perversities of human nature are sometimes startling. Medical men most disinterestedly, most patriotically, seek by sanitary reforms to conserve the public health. But where alcohol is concerned, we too often find them championing that most active and destructive of all the disease-creating agencies.

Sir William Roberts deplotes the prevalence of dyspepsia, and he will have good reason for continuing to do so, whilst alcohol in its varying combinations and concoctions is so freely used. If men of commanding influence urged on the nation the importance of self-denial—if, instead of lauding “high living,” they urged simplicity and moderation in food, and total abstinence from alcoholic drinks—if they preached fearlessly the pure gospel of hygiene—if they insisted on the vast importance of the doctrine that the prevention of dyspepsia is better, cheaper, and far easier than its cure—if, instead of ordering spirits, or wine, or “bitter” as appetisers, they told their dyspeptic patients that they suffer, owing to the violation of natural laws—that, so sure as they shirk taking adequate out-door exercise, there will not be the normal demand for food, nor that relish, the absence of which renders irritating spices and exciting wines apparently needful to spur their debilitated organs to do their work; and that there will continue to be a pale or congested gastric membrane, a sluggish liver and bowels, blood poor and impure in quality, debility and misery. Preaching such a doctrine as this, physicians would be indeed worthy of the highest honours which the State could confer.

In conclusion, I desire to emphasise with all earnestness, a simple, but sadly neglected, truth. Man’s digestive organs are as perfectly constructed as are those of the lower animals. If he suffers whilst they do not, it is because they do not tamper with those organs; they live naturally, not artificially. Their predecessors were not gluttonous, did not indulge in high living, did not apply hot and rebellious liquors to their blood; hence the absence of a tendency to disease. We or our fathers before us have done the things we ought not to have done, and have left undone those things we ought to have done; hence too often there is no health in us. This is the doctrine which, if physicians are to be regarded as men of light and leading, if they are to be honoured as philanthropists and patriots, they must boldly and persistently teach.



THE AIMS AND CLAIMS OF THE BRITISH MEDICAL TEMPERANCE ASSOCIATION.*

By J. JAMES RIDGE, M.D. Lond., *Honorary Secretary.*

TEN years ago last March, ten medical men who were total abstainers met together in London and resolved to found the British Medical Temperance Association.

At another meeting, held in April, 1876, twenty more signified their adhesion to the movement, and the constitution was formally agreed to. Dr. Edmunds was unanimously chosen as the first President, in recognition of his long service to the Temperance cause, as almost the only prominent medical abstainer in the metropolis. Three years later our present esteemed President, Dr. Richardson, was elected to fill the office.

Ten years ago the medical abstainers were few and far between. Now, though still few, compared with their future numbers, there are probably ten times as many. This suggests two thoughts. The one, that there must be some reasonable cause for this increase among men who, to say the least of them, are not all fools; the other, that we cannot but feel some surprise, when we consider the progress of the practice of total abstinence among medical men, that avowed abstainers are not still more numerous.

While, however, medical abstainers are still in a minority—while the British Medical Temperance Association has on its roll only 341 members and 56 associates, the latter being medical students—it would be erroneous to suppose that all the medical abstainers are enrolled in its ranks, or that all who are practically total abstainers from conviction are openly known to be such. As in the days of old, there are many who are “disciples, but secretly.” I would fain hope that some of the obstacles which prevent the open avowal of total abstinence may, on consideration, be soon removed.

It would be absurd, however, to ignore the plain facts of human nature. The maxim,

“Be not the first by whom new things are tried,”

commends itself to the majority. But pioneers there must be in everything; and there have now been pioneers in plenty in the path of medical abstinence, so that, indeed, it is necessary to bear in mind the second line of the couplet—

“Nor yet the last to cast the old aside.”

Moreover, man is a gregarious animal. We are influenced by

* Read at the Annual Meeting of the British Medical Temperance Association, May 28, 1886.

the example of our fellows, even more than by their words. We are attracted by a crowd, by the agreement of numbers, to attend to things which otherwise we might not have noticed. Hence the advantage of association, if we desire to attract attention, and propagate our special views. It is beyond dispute that the advance of the Temperance cause, as of many similar movements, has been greatly assisted by the banding together of like-minded men to demonstrate their practice.

Our first aim, then, is to form a rallying-point for medical abstainers throughout the length and breadth of the land. We are constantly discovering in busy cities, or in country towns and villages, medical men, both old and young, who are total abstainers, but whose fame as such is not known far beyond the neighbourhood in which they dwell. It is gratifying to all who are interested in the Temperance cause to find so many of these solitary adherents, and a source of help and encouragement to them to learn that they are not alone, but are associated with an ever-increasing number of their medical brethren. The Association makes such men acquainted with each other, and mutual sympathy strengthens individual zeal. Every single member thus contributes to the encouragement of the whole; and if there were no such Association in existence, it would surely be necessary to form one, to show to ourselves and to others the spread of total abstinence among medical men.

The object of the Association is thus very clearly stated in the constitution: "The object shall be to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease." We aim to stimulate the interest of medical practitioners in the subject of total abstinence: firstly, of those already abstainers, that they may exercise a greater influence on their professional friends and on the public around them; and secondly, of those practitioners who are not interested, or who are more or less opposed to it. We look forward with confidence to the time when every medical man shall be a practical total abstainer from intoxicating liquors, and shall "teach men so." In my view the future of the Temperance movement depends upon the adoption of right views on the position and action of alcohol on the human organism, both mind and body. What those views should be ought to be decided by medical scientists. The effect of alcohol on mind and body is part of that physiology which is the "proper study" of the profession. The world waits for a clear and authoritative declaration. There has been too often given to it hitherto the "uncertain sound" of contradictory statements, a display as confusing, and often amusing, to the public as it is injurious and discreditable to the profession. Total

abstinence has progressed and prospered mostly in spite of the doctors, though heartily supported by a few, and "damned with faint praise" by others. But it has won its way, and there must be some good reason for it. Practical men have adopted total abstinence, temporarily or altogether, to enable them to accomplish feats of strength, skill, or endurance. Soldiers, engineers, labour-masters have enforced total abstinence on occasion, for the purpose of attaining most easily the highest efficiency of their men, and have been delighted with the result. If the profession, or any members of it, set their faces against a principle thus practically tested and triumphant, it is high time that they realised that they are running their heads against a rock, and must suffer the inevitable consequences. It is necessary, then, that the profession, for its own credit's sake, should speedily make up its mind to declare that the development of health and strength, the soundest condition of mind and body, are only possible, as far as intoxicating liquors are concerned, when those liquors are totally abstained from. This is one of the aims of our Association, and it affords an opportunity for the profession to give public testimony to this view in the best and most natural way, namely, by declaring that each member practises what he preaches, and is a total abstainer from alcoholic liquors of every kind.

For, after all, and very properly, the public will judge us more by what we do than by what we say. The medical profession has a high and sacred trust. Our special knowledge involves special duty—the duty to lead, and not to mislead; the duty to seek for truth, and, having found it, to declare it faithfully with life as well as lip.

"Do not, as some ungracious pastors do,
Show me the steep and thorny path to Heaven,
Whilst, like a puffed and reckless libertine,
Himself the primrose path of dalliance treads,
And recks not his own rede."

The medical abstainer is a living beacon, whose silent, yet eloquent, example influences many far beyond his ken, saving them from the alcoholic rocks and quicksands, on which some would otherwise be inevitably shipwrecked. By uniting his light with others, its penetrating power is increased, and a light is kindled, able to reach where no solitary beam could dispel the gloom.

But some, perhaps, may want to know why we advocate so strenuously abstinence total and complete. I might briefly reply, Because we are in earnest, and because we are practical reformers, dealing with human nature as we find it. Our ultimate aim is the extinction of all the special evils which the action of alcohol

on the human body is able to produce, and the diminution of all other vices, diseases, and troubles by how much they are now aggravated by alcohol. The method which commends itself to our common sense is ourselves to discontinue to drink alcoholic liquors, and to induce all whom we can influence likewise to abstain. It is perfectly certain that the general adoption of our means would result in the complete attainment of our end. But more immediately satisfactory is the knowledge that, even while the general adoption of total abstinence is still future, we already reap our harvest in proportion to our sowing, we prevent the evils of alcohol-drinking, and lessen the woes of humanity to the extent to which our principles and practice are adopted. This is our great encouragement to individual action. Here lies the force of our appeal to each single member of the human race. But our eager desire to secure the adhesion of a medical man is quickened ten-fold by the recollection of his immense influence. It was said of one—

“Truth from his lips prevailed with double sway,”

but a member of the medical profession cannot estimate the additional power which his special knowledge confers, able, alas! to be used for evil as well as for good.

I have said that we seek to eliminate all the evil influence of alcohol, and that we aim to do this by eliminating the alcohol which has the evil influence. I need hardly remind medical men that the harm arising from alcohol is not to be measured by the unsteadiness of the legs or the thickness of the speech. We are all aware that a good deal of perversion of function takes place before either of these external manifestations occurs. We all know, too, that the daily, monthly, and yearly imbibition of alcoholic liquors, no single dose having been visibly intoxicating, will in course of time produce degenerations of serious importance. But, above all, we know the terrible extent to which alcohol is able to affect the functions of the brain, upon which it exerts a paralysing action, weakening first of all the highest powers of the mind, those which are least automatic, those which are most connected with the individual, or are the latest acquirements of the race. It produces “progressive paralysis of the judgment,” even such a small quantity as a single glass of wine being able to take the keen edge off the intellect in circumstances in which its action can be actually tested. But while it dulls perception and the critical faculty (on the sensory side of the nervous system), it has no less power of producing progressive paralysis of the will, or voluntary motor action. It lengthens the time required for a voluntary effort, and, while reducing voluntary self-control (*i.e.*, temperance), it leaves the ideo-motor, sensori-

motor, and excito-motor centres to act for the time more automatically and so (in some cases) more powerfully. With increasing doses these reflex actions are one by one weakened and extinguished from above downwards (with many variations due to idiosyncrasy or accident), the most complex being interfered with before the less complex, until only the centres of respiration and circulation may remain in action, or may themselves be finally paralysed by the deadly narcotic.

I am convinced that all will admit that this gradual paralysis of mental and moral control is of more importance than any paralysis of mere muscular power or co-ordination. It must necessarily follow that it is not desirable to practise any habit which is capable of producing such results. And if we are not quite sure how much, or how little, alcohol can be taken without any such interference with normal judgment and self-control, it seems to me unquestionably wiser to abstain altogether from such a narcotic. Here, at least, is the position of complete safety. Here is a practice which can be readily understood and easily observed by the most ignorant of the public. Here is no uncertain sound but such as it seems to me the profession is called upon to give for the moral elevation, the mental education, and the physical development of the masses. What is the practical good of discussing how many drops a man may take with impunity, especially as various conditions of life and health vastly affect the result? Such a discussion is about as practical as that celebrated one of the Middle Ages, the number of angels that can stand on the point of a needle! We might as reasonably seek to determine how much sewer-gas can be breathed without harm!

There are some, however, who say that medical men have no special concern with morals; that their function is simply the healing of disease. I reply, that by entering the medical profession they do not cease to be men, and that the duty of all men to love their neighbours as themselves, and to exert themselves actively to promote the highest good of all, is surely not to be repudiated because we have acquired special knowledge and greater influence. But it seems to me that the fact, that this is a case of morality being affected by a material agent, makes it peculiarly the province of the physician. The Christian and the moralist may claim to deal with the spiritual forces which help or hinder in the sphere of morals, but the influence of drugs, as well as of diseases, upon the mental powers and moral nature of man can only be properly understood by the aid of that special knowledge which it is the part of the medical profession to acquire and its duty to employ.

We are, then, under obligation to let our fellow-creatures know that alcohol saps the very foundation of morality by rendering

self-control more difficult and at last impossible. That it is impossible for any nation to take alcohol in its beverages without in the aggregate promoting immorality and vice. Not but that the moral status of the alcohol-drinking nation may still be higher than that of an abstaining nation, for the standard of morality may be higher in the former, and a thousand other influences may be at work. Yet an adverse force does not cease to be adverse, or always to exert its full effect, because in one case it may appear to do a great deal more than in another. A nation is an aggregate of individuals, and the more individuals there are in it who deaden their finest feelings, weaken their judgments, let loose their thoughts, their emotions and passions, and their lower natures generally, from the supreme control of their wills, so much lower will that nation be in the scale of intellect, of morality, and civilisation. Possibly it may be in front of all other nations, yet, but for the alcohol, it would have been farther still. Alcohol degrades a man or a nation both absolutely and relatively. It takes the individual back through the stages of youth and childhood to the unconscious and merely animal condition of the new-born babe, and it has a greater effect upon the young, the evolution of whose highest powers is not yet complete, and upon those who by reason of heredity are low in the scale of intelligence or deficient in general self-control. The same phenomena are seen in its effects on nations: brutality and destructive vices are more prevalent where alcohol is used, and the lower a nation is in the scale of civilisation the more terribly irresistible and destructive is the alcoholic power.

Physicians, then, ought to exert their individual and associated influence, with all the energy they are able to put forth, to stay this plague and enable the nation to

“Work out the beast and let the ape and tiger die,”

proclaiming with undaunted voice (the more necessary the more unwelcome it is) that alcoholic liquors are injurious to the highest interests of the individual and of the State.

It is necessary that I should define the position of the British Medical Temperance Association with regard to the use of alcohol as a medicine. This is easily done, for in that matter every member of the Association is perfectly untrammelled. We recognise that there may be a *bonâ fide* use of any of the numerous alcoholic beverages. But most of us are agreed that it is a dangerous thing to put such beverages into the hands of patients, and, being so, some of us consider it unjustifiable. If alcohol is the only remedy suitable for a case of disease, we think that it is more scientific to administer it in the same way as we should give chloroform, opium, or any other drug, in pure condition, in

measured doses, and in the form of medicine. The necessity for such administration is altogether an open point, to be discussed in a calm and candid spirit. While some administer it as often as many non-abstainers do, others have lost more or less faith in its alleged, well-nigh miraculous, virtues, and give it either seldom or never. We are satisfied that our patients do as well or even better than when once we used it freely, and we are glad to know that we shall not awake a dormant appetite for drink, or implant in our patient that craving, or those ideas about alcohol, which may hereafter prove his ruin for time and eternity.

It is very probable that after all that has been said there will be some who will hark back to the old cry of education as the real cure for intemperance. But surely, after the revelations recently made the medical profession ought to recognise the uselessness of this recommendation. It will be in the recollection of all that Dr. Ogle, in his paper on "Mortality in the Medical Profession," showed that more medical men die of diseases to which alcohol specially contributes than the average of males. If special knowledge of the action of alcohol and special education in physiology were able to prevent intemperance and ward off the dangers from drinking, then the medical profession should furnish the lowest number of deaths from this cause. But it is far from being so. Hence we are sure of our ground and confidently affirm that while men are taught and encouraged to use habitually any narcotic, that narcotic, whatever it be, acting on frail human nature under favouring circumstances, will develop more or less craving for itself, will weaken the power of resistance and claim the full tale of victims to its siren sway.

We ask all medical men to re-consider their position in the light of ever-accumulating experience. We desire to see all promoting temperance by recommending (by precept and example) total abstinence from that which makes temperance more difficult, and perhaps impossible. We desire to see every medical abstainer joining the Association in order to raise a powerful voice in favour of total abstinence, for the good of man and the glory of God. We desire to see all medical students enrolled as Associates before they are hampered by any contrary statements, and have no mistakes to confess. In view of the special dangers to medical men we rejoice to see the progress of our principles among them, and especially at the brighter future which the increasing number of student Associates so clearly foreshows. Let each one of us realise our responsibility in this matter, and act accordingly. The poet has given us the key to the heroic and successful defence of Lucknow in the words,

"Each of us fought as if hope for the citadel hung upon him."

Let us take up this matter in that spirit, not indulging in all

kinds of special pleading for alcohol; not casting about for all kinds of excuses for rejecting the clear and effectual plan of total abstinence; not trying to avoid our responsibility or discount our influence; not seeking with how little we can satisfy our consciences; but each with cheerfulness and determination throwing himself into the thick of the fight, resolved that "what one man can do" to stay the ravages of alcohol that, God helping him, he will do.



IS ALCOHOL A STIMULANT?

"Men are taught everything else which intimately concerns them, whether in relation to this world or another, to heaven, earth, or hell; but, in relation to the matter I am attempting to elucidate" (*the Narcotic Law*) "the masses are as profoundly ignorant as they are of the science of astronomy."—*Charles Jewett, M.D.*

In the short chapter which appeared in a recent number of the *Journal* under the above heading, I refrained from introducing irrelevant matter, my object being to protest against the habit of miscalling alcohol a stimulant. In the ordinary sense of the word it is not so. It is a narcotic. It may be said to *stimulate to crime*; but this is a moral result of its physical effect as a narcotic poison on the nerves—the paralysis freeing body and mind from wisely-imposed natural control and regulation. The narcotic nature of alcohol in large doses has been freely admitted, and many eminent men have for years proclaimed that the phenomena excited by smaller quantities, for which the character of stimulation had been claimed, were really due, as Dr. James Edmunds aptly expressed it, "*to the finer shades of narcosis*;" but it seems to me that a *missing link* is supplied by the demonstration of the distribution of the nervous tracts, which are primarily attacked by this narcotism in ordinary drinking; an ever-present fact, but so apparently insignificant as to have eluded notice, and yet of such fundamental importance in itself. It is no mere hypothesis. *There is the fact*, patent to and demonstrable by any diligent anatomist, and the demonstration must open up, to teacher and student alike, a hitherto overlooked detail in the chain of cause and effect. They will see that the primary effect of alcoholic indigestion is paralysis of the vasomotor and pneumogastric nerves; they will then readily discriminate between immediate and remote consequences of this narcosis, and the symptoms due to the vitiated condition of the blood, and must find it impossible, I think, with such a clear insight into the tumul-

tuous and unhealthy excitement thus generated, to maintain any longer that alcohol is a stimulant.

But the habit of referring to alcohol as a stimulant—a nerve-stimulant, a brain-stimulant, a pseudo-stimulant, &c.—clings even to those who, like myself, recognise its action (beyond its acridity and blood and tissue deteriorating properties) as purely narcotic; and the most eloquent, philosophical, and elegant exponent of the medical grounds for total abstinence, Dr. B. W. Richardson, cannot see his way to discard such misleading terms from his otherwise logical, classical, and vigorous writings. Alcohol has been described as a spur, but its action is more like the lull produced by the division of a sensitive nerve distributed to a diseased part; relief is afforded, but the indications of active mischief are only thereby concealed. This is not the work of a stimulant, and the profession should divorce that term from its unnatural connection with alcohol in any and every form. There is a certain propriety in “calling a spade a spade,” and this false nomenclature perpetuates the havoc wrought by the maladministration of the drug, and prolongs the dangers attendant upon a free dietetic employment of intoxicating liquors. People who like their “little stimulant,” would shrink from the habitual use of a recognised narcotic poison. Narcotics are evil things, unfitted by natural law for man’s habitual use; for by their very nature they establish a diseased condition, which awakens the sleeping demon within us, and creates a craving that is never felt for stimulants and food, or even for natural beverages. It is wrong to say that stimulants excite craving for their repetition. *Alcohol does, because it is not a stimulant, but a narcotic*, and therefore follows the law of narcotics, and creates a craving in those who use it; and in proportion to the lengthened duration of that habit of its use is the power of that crave intensified, until it becomes uncontrollable in the presence of the poison, lapsing into dipsomania. And naturally enough! The check is taken off, “the pendulum is shortened,” the circulation runs riot, and a feeling of relief accompanies the emancipation. And if the mischief ended here very little harm would be done; although it must be patent to every thinking person that that effect of paralysis, whatever else it may do, cannot have stimulated or strengthened the nerves implicated, much less the rest of the body. But—ah, that little but!—the main injury is done *after* the relief afforded by the narcosis, by the turmoil in the circulation, and by the tainted blood being more or less unfitted to perform its functions aright. Hence we have imperfect nutrition and imperfect depuration of the body; the former laying a train for future diseased conditions, and the latter paving the way for immediate disorders, and pre-

paring a nidus for the facile development of zymotic disease. It is of the first importance that the profession should recognise alcohol as a narcotic poison, void of stimulating qualities, but producing morbid excitement of the circulation which has hitherto generally been misinterpreted as stimulation, and hailed as salutary and beneficial, but which has proved to be in its very nature noxious and depressing.

In accord with this position we should never apply to alcoholic liquors any term that can by the most subtle perversion be twisted into an acknowledgment of their right to be regarded as tonic, stimulating, nourishing or supporting.

We must expect intelligent unprofessional observers to be influenced by our attitude; and the appetites of the unthinking multitude will be raised or debased according to *our* view of this important question.

ROBERT KNAGGS, M.R.C.S.

Trinidad, 20th February, 1886.

Miscellaneous Communications.

INEBRIETY, AND HOMES FOR INEBRIATES IN ENGLAND.*

By JOSEPH PARRISH, M.D.,

President of American Association for the Cure of Inebriates.

DRINKING to intoxication has assumed such damaging proportions among the higher, as well as the lower, classes of English Society, that it has claimed the attention of the British Parliament so far as to provide special remedial legislation. Thus, during the session of 1872, it was

“*Ordered*, that a committee† be appointed to consider the best plan

for the control and management of habitual drunkards.”

That the committee might prosecute their inquiries intelligently and thoroughly, they proceeded without delay, and yet with characteristic prudence and deliberation, to send for persons and papers.

Of the witnesses examined for the United Kingdom, there were eminent physicians and surgeons in general practice, medical inspectors and superintendents of lunatic asylums, and directors and managers of private retreats.

Connected with the administration

* An Address delivered at the November meeting of the American Association for the Cure of Inebriates.

† Committee — Sir Harcourt Johnston, Mr. Birley, Mr. Henry Samuelson, Mr. Wharton, Dr. Lyon Playfair, Mr. Henry Mitchell, Lord Claud John Hamilton, Mr. Akroyd, Mr. Miller, Mr. Downing, Major

Walker, Mr. William Henry Gladstone, Mr. Clare Read, Colonel Brice; Dr. Donald Dalrymple, Chairman.

of law, there were examined governors of prisons, of houses of correction and reform, stipendiary magistrates, and constables of counties and boroughs, and also two medical witnesses from America, both of whom were at the time superintendents of Asylums for inebriates.*

In addition to the verbal testimony furnished by these persons, of whom there were twenty-nine, who gave answers to three thousand two hundred and thirty-nine (3,239) questions, several papers were handed in from penal and reformatory institutions, exhibiting, in tabular form, statistics of commitments and discharges for drunkenness, with suggestions from scientific and philanthropic persons as to the kind of legislation that was needed. In addition also to such papers, there were presented abstracts of the laws of France, Austria, Sweden, and the Netherlands, on the use of intoxicants, with information from those countries touching the appointment of guardians for inebriates, divorce, crime, punishment, and the relation of inebriety to insanity.

The sessions of the committee were held at regular intervals, from the 29th of February to the 7th of June, and during these months such an amount of testimony, and such an array of facts had accumulated, as to enable the committee to prepare and present a report, which for thoroughness of research, and completeness of design, and arrangement, may be said to be a model public document. It shows a concurrence of testimony on the following points, to wit:

1. The absolute inadequacy of existing laws to check drunkenness.
2. The increase of drunkenness in large towns and populous districts.
3. The confirmation of the statement that drunkenness is a prolific source of crime, disease, and poverty.
4. The utter uselessness of small fines and short imprisonments.
5. That occasional inebriation fre-

quently becomes confirmed and habitual, and soon passes into the condition of disease, uncontrollable by the individual.

6. That self-control is suspended or annihilated, moral obligations disregarded, and the decencies and duties of life, alike set at naught; and that the victims of this condition obey only an overwhelming craving for stimulants, to which everything is sacrificed; and that this is confined to no class, condition, or sex.

7. That the moderate use of alcoholic liquors is unattended by any bad effects, while there is much to prove that excess in ardent spirits is far more deleterious than similar excess in wine or beer.

8. That there is a large amount of secret drunkenness of both sexes, which never becomes public, but which is probably a more fertile source of misery and degradation than comes before the police courts, and that legislation in behalf of such cases is urgently demanded.

9. That there is a necessity at this time for more efficient legislation to check the downward course of the drunkard, and secure his control in reformatory and curative asylums or homes, by which many cases of premature death from intoxication, including suicide and homicide, may be prevented.

10. That though the habit of prolonged intoxication may lead in the end to insanity, yet there is a difference between inebriety and insanity proper, so distinct as to warrant the opinion that placing inebriates in lunatic asylums is improper, and should not be allowed, except for a very brief period, *e.g.*, during a paroxysm of delirium tremens.

11. That for the class known as casual or occasional drunkards, it is recommended, in order to arrest or possibly prevent the establishment of the habit, that more efficient laws should be passed with something like the following provisions:—

A register should be kept, in which should be recorded the name of every person arrested in this initial stage of drunkenness; that a fine not exceeding

* Dr. D. G. Dodge, New York Inebriate Asylum, Binghamton; Dr. Joseph Parrish, Sanitarium for Inebriates, Media, Penn., now of Burlington, New Jersey.

forty shillings should be imposed upon every such person, and placed opposite to his name, in the register, with costs, if any. That after three convictions of the same person in any one year, the magistrate should have power to require the offender to find security for his sobriety and good conduct for a fixed period of time, and in default of the same, or in case of forfeiture of security by a fresh offence, then to sentence the offender for a considerable term to an inebriate reformatory.

It is further recommended that the register shall be progressive, so that if the offender should continue to offend, or be unable to find security for sobriety and good behaviour, or forfeit the same, he be enrolled as an habitual drunkard, and committed to an inebriate home or asylum for a term not exceeding twelve months.

This admirable report goes on to recommend the establishment of sanatoria or reformatories by the Government, and by private enterprise, to be divided into two classes, to wit:—

“A. For those who are able out of their own resources, or out of those of their relations, to pay for the cost of their residence therein;” and “B. For those who are unable to contribute, or only partially. These to be established by the State or local authorities, and, at first, at their own cost, though there is good reason to believe that they can be made wholly or partially self-supporting.”

Such is an outline of proposed legislation, as it came before the representatives of the people in Parliament assembled. From year to year, in session after session, the friends of the inebriate laboured to secure the passage of a law that should embody the principles and methods agreed upon by the committee; but it was not till 1879 that the question was brought to a climax, by the passage of an Act known as “The Habitual Drunkards Act.”

After seven years of doubtful questionings and discussions, and seven years of diligent research and inquiry, the great Parliament made the discovery that there was a physical side

to the evil of intemperance, and deliberately committed itself to the dogma of disease as applied to it;—they thus inaugurated a new era in the career of the temperance reformation, and found that they must legislate, if at all, from that standpoint. Hitherto they had dealt with the inebriate as a criminal by fines and imprisonments: hence it was not strange, when they attempted to frame a law upon the basis of the new doctrine, that they were embarrassed, and encumbered it with the *débris* of the old. And, when they enter upon the task of reconstructing the jurisprudence of inebriety—which must be the logical outcome of the affirmation of the new principle, it may be no less confusing. That time is at hand. Verily it is even now. To repeal the old statutes, and enact in their stead such laws as shall compass alike the entire domain of public morals, and at the same time recognize and provide for the singularities and necessities of the individual life of an exceptional class of the community, is no light or easy task. But if there is a legislative body that is equal to it, that body is the Parliament of Great Britain; and to it the eyes of the world are turned, with earnest expectation and hope.

The next significant and most important step in the line of progress, was the formation of a “Society for the Study and Cure of Inebriety.” It was instituted February 25th, 1884, with Dr. Norman Kerr, of London, as its president, and a long list of other distinguished names, as vice-presidents, council, and officers. This society has not been idle since it came into existence, but, with regular meetings at which papers are read and discussed by men eminent in the scientific and literary world, much is being accomplished in the line of study, and much light thrown upon the pathology and treatment of the disease.

Its accomplished president says: “Notwithstanding all the brave and gallant efforts of the warriors of the cold-water army, drinking to excess goes on merrily apace; insobriety, while somewhat decreasing among men, has been terribly increasing

among women. This is a state of things pregnant with yet deeper ills to coming generations, for, by the advancing intemperance of the mothers of the future, our successors endowed from their birth with an inborn tendency to excess, cannot fail from their heightened nervous susceptibility, and their diminished will-power, to be less fully equipped to do battle with their inherited proclivities, and with the temptations to drinking, which the tyrant customs of society, the sacred sanction of the Christian Church, and unrighteous legislation by the State, cause so to abound on every side. . . . Whatever else it may be, in a host of cases it is a true disease, as unmistakably a disease as is gout, or epilepsy, or insanity. Sex exerts a powerful influence, nerve-storm in natural functions being an influential factor in the production of inebriety among females. The influence of intoxicating drink is primarily physical, and no moral or religious surroundings or conditions can prevent or alter the physical effects of intoxicating agents on the human brain and nervous system."—Dr. NORMAN KERR, F.L.S., *London*.

Many others testify in the same way.

"Inebriety is a disease, and must be treated as such, the physiological condition being waste of brain, and nerve power."—Dr. LONGHURST.

"It is the province of the Christian Church to bring men to sobriety by the path of morals; but it is the duty of the State to make men sober, whether they be moral or immoral. The Church is bound to fight against drunkenness for the sake of the individual drunkard, but the State is bound to seek its abolition for the sake of the community at large. The establishment of homes for inebriates, especially for women in the neighbourhood of our large towns, is an absolute necessity in the present state of society."—J. MUIR HOWIE, M.B., C.M., *Liverpool*.

"Drunkenness is a moral evil, but drunkenness has also a physical basis, and physicians have done much for the community in getting men to look

at it in that light."—Rev. LLEWELYN D. BEVAN, D.D., *Vice-President National Temperance League*.

"How many men of eminence,—artists, poets, clergymen, and literary men, as well as religious and active women, in order to sustain the pressure at which many of them, alas! are often compelled to work, have, by too frequent indulgences, degenerated into confirmed drunkards, and in none of these instances could it be properly said that they were actuated by vicious tendencies, but were impelled by an inflamed and disturbed state of mind. In many sensitive temperaments there is a dormant defective proclivity, ready to start into activity and carry all before it. This dormant power is often the heritage of a drunken parent, or from a parent of overwrought and unnaturally sustained brain-action; or it may be the result of an enfeebled constitution from disease, or other personal conditions."—STEPHEN S. ALFORD, F.R.C.S.

Such testimony touching the physical aspect of inebriety, were it necessary, or even important, might be multiplied to a burdensome extent, but the views of the society to which reference has been made are thus sufficiently represented. Those who have given themselves not only to the study but to the hard, practical work of employing means for its cure, and who are now engaged in this responsible service, should also have a place in the rôle of evidence.

Such testimony however may be premised by that of the Government "Inspector of Retreats"—an officer employed to discover and reveal defects and failures if they exist. He says: "The general condition of the different retreats has been on the whole *very good*; and the health of the patients, *very satisfactory*. As a rule, the retreats have worked well, and the complaints made to me, either by the licensees or the patients, have been few in number."—H. W. HOFFMAN, *Government Inspector*.

Under the "Habitual Drunkards Act" there are five licensed retreats, whose status may first be considered:

1. *Dalrymple Home*, at Rickmans-

worth. "I am satisfied that even such results as I am able to record are sufficient to indicate that this institution meets an urgent need of the time, and will serve as a pledge of future usefulness. Out of forty-nine admissions, there were men of the average age of thirty-six years, all of whom had been heavy spirit drinkers of a daily quantity varying from one pint to two quarts. Of the thirty-two discharged, fourteen have recovered, and resumed their avocations in life, and six have decidedly improved."—Dr. R. WELSH BRANTHWAITE, *Medical Superintendent*.

2. *Tower House Retreat*, Westgate on the Sea. "In reviewing my book of last year (1884) I am glad to say that I have met with decided success in the treatment of a majority of the cases that have come under my care. Fifty-six have been under care from the beginning, and only a small number left without deriving great benefit, which I trust in the majority of cases will be lasting."—J. H. BROWN, *Principal and Licensee*.

What is meant by "decided success" in this report is not quite clear. Does it mean decided cures? If so, is it justified by following up the patients after leaving? This is important.

3. *Old Park Hall*, Walsall, Staffordshire. The work of building up an institution for the cure of inebriety is a most responsible one. A man who undertakes it should be himself a total abstainer, and require the same of all in his service. He should be a Christian man and rely upon Divine aid to secure success. The inculcation of right principles and conduct should be done by example, which is seen and felt, and is more effective for good than constant preaching to the patients. The institution has not been sufficiently long lived to assume any percentage of cures; but all who come are the better for coming, and if they remain long enough great good can be accomplished. Such is the opinion, as expressed to the writer, by FRED. JOHN GRAY, *Medical Superintendent*.

4. *High Shot House*, St. Margaret's, Twickenham, Middlesex. "The necessity for such homes can admit of

no two opinions. If we fail to recognise as we ought that intemperance is a disease, quite as much as small-pox or any other affliction, we shall never be able to apply the proper remedies."

—HARRISON BRANTHWAITE, *Medical Superintendent*.

5. *Colman Hill House*, Halesowen, Worcestershire. "It is too soon to speak of ultimate results so far as cases are concerned, but there seems good grounds for expecting a fair proportion of cases will be permanently restored, while improvement may be considered *certain* in almost every case. Judging from the last nine months we are much encouraged to hope for good results in the future. . . . It is succeeding beyond our expectations, and we get most gratifying accounts from those who have left."

This is an institution exclusively for women, and is said to be among the most successfully managed, under the skilful care of Doctors Hugh R. Ker and J. V. de Dennie, and an accomplished matron, Mrs. Taylor.

An interesting feature of the work is the fact that there are several institutions conducted by women, exclusively for women—and for those of the upper and middle classes, among whom intemperance is said to be on the increase. In a recent address by Dr. Norman Kerr of London, before the ladies of the "Christian Workers' Temperance Union," it is clearly shown how this evil is growing. He says, "There could be little doubt that female inebriety had been increasing enormously amongst us. The evidence given before the Committee of the House of Lords, clearly proved this. In one town there was an absolute majority of females of the whole number arrested for drunkenness. . . . In Liverpool, in one recent year, there were more female than male commitments, for crimes connected with drinking, to one large prison. In London the proportion of women summoned for drunkenness had increased from about 15 per cent. to 49 per cent., or nearly one-half the total number. In Edinburgh there had been a marked and most alarming increase."

With such facts before them it is

not surprising that the true and sober women of the realm should arouse themselves and come to the rescue. Among those who recognise the importance of studying the subject from its physical side, and dealing with their enfeebled and enslaved sisters in that direction, the following may be named: Mrs. Theobald, of the

Tower House, Leicester, was the first to open a Home for the higher classes of ladies, to be treated for intemperance from its physical side. Mrs. T. was for years a popular and eloquent platform temperance speaker. She dealt with the subject as others did, awaking interest and sympathy in the drunkard and his family from the standpoint of morals and religion. The time came when she abandoned the platform, and devoted herself with fidelity to the physical treatment of her unfortunate sisters. To the writer, on the occasion of his recent visit to her beautiful *Tower House*, she remarked:

"A person may be cured in motive, in purpose, and in will—the moral nature being restored to its normal state, and yet *the impulse comes as a physical demand, like hunger*, and must be satisfied, unless the victim is restrained, or supplied with a satisfying substitute."

After a quarter of a century of temperance work before the public, she has come to adopt this creed, which contains in a few words the substance and the philosophy of the evil—a *physical impulse*, asserting its need, like hunger.

Buxton House, Earls Colne, Essex. Conducted by Miss Pudney. She "aims to promote a higher moral tone and more force of character, by which the power of habit may be overcome; and to develop these, great kindness and gentle firmness, unremitting oversight, and personal companionship are devoted. Pleasant social intercourse, recreation, and refining amusements provided."

With such a course of treatment day by day, and the intervention of the medical adviser when needed, *Buxton House* is an instrument of good for the upper and middle classes. A peaceful

home, presided over by the genius of philanthropy and wisdom.

Spelthorne Sanatorium, Bedfont, near Feltham, Middlesex, is an institution under the care of the "Wantage Sisters of Mercy" (Church of England), in which, while the religious element is prominent as a governing force, the physical view is considered important, as may be seen by the following quotation from the notes of an observer, and adopted by the Order: "The very term Sanatorium tells that drunkenness in its aspect as a disease has been carefully kept in view; while the term 'patient,' rather than 'inmate,' avoids wounding jealous susceptibilities."

Chapel services are held three times daily.

The sister in charge writes as follows:—

"The sisters only took up the work the 3rd of July, 1884, and one year is not sufficiently long to make our views worth very much. Married women are more restless and anxious to leave than single women and widows. Family cares, and anxiety about children, unsettle them. A very observant sister once said, 'fleshly indulgences deaden all spiritual perception; they neither desire heaven nor fear hell.' Still there are many exceptions, and we have in this short time very reasonable hope for the future of two or three that have completed their year and gone out into the world, afraid of trusting in themselves, and keeping up a friendly relation towards ourselves."

In addition to the above, the same sister gives the following:—"One year at least is necessary for a cure. To tide over the broken-down condition, and remove physical disability, requires at least six months, and the last six months are needed to restore and establish the moral and religious character."—AGNES, *Sister in Charge*.

West Holme, Belmont, Twickenham, Middlesex. A family of women. "I believe the Home should be conducted as near like a family in ordinary sober life as possible, that when the patients go out at the end of a year *they will not feel any rebound*."

"The physician is not often needed, though a medical certificate is required to admit a patient. A year is the shortest term for which they can be received.

"At West Holme, while availing ourselves of every remedy that medical science can afford, we put our trust in the Great Physician."—LADY SUPERINTENDENT.

St. Raphael's Convent and Hospital, Croydon. Under charge of "Sisters of Mercy." "Religious services twice daily in chapel. Require a year's residence. Not much reliance on medical treatment, except in a few cases. In sinking or craving, our medical man is sent for. Keep a composing draught on hand which serves very well. Require an hour's silence, morning and afternoon, as good discipline. A certain amount of exercise is enjoined. Patients dress in uniform—black with white caps."—LADY SUPERIOR.

St. James's Home, Kennington Park, London. Religious and "Blue Ribbon Army." No servants. Patients do all the work of house and public laundry. Prayers twice daily, which all *must* attend, and wear black dresses and blue ribbons. This is for the middle and poorer classes, and is in a measure connected with a mission under the care of Charles Zierenberg, the 'Honorary Secretary.'

"Of the thirty-eight who left after a stay of twelve months and upwards, 32, or 84½ per cent., are doing well. Of these thirty-eight, sixteen received a decent outfit, and were placed in good situations. One of them was sent to Canada, and her master and mistress speak in the highest praise of her. Five were restored to parents; while seventeen returned to their friends."—WILHELMINA, *Lady Superior*.

The percentage of recoveries as stated above is beyond what is justified by long and faithful experience, and all such statements, from whatever source, should be taken with large allowance. They may be believed by "Blue Ribbon" advocates of the cause, who in their zeal sincerely accept such results as true; but no

careful, scientific observer, nor any institution with a rational classification and study of its inmates, can make such averments. To eliminate the alcoholic poison from the system, and to re-create the moral nature, so as to produce a new-made-creature, without the taint of her former degradation, is a tremendous task, and no cure is established till that is done. The injury is too deep on the part of the victim, our knowledge too superficial, and our experience too short, to claim such sweeping results. Especially is this true under the circumstances which embarrass the superintendent of St. James's Home, and his zealous wife, who feel the need of more room for exercise out of doors—for more space in dormitories, to prevent the crowding of the inmates, and for a general enlargement of their facilities to improve the personal hygiene and domestic sanitation of the establishment.

Waverley Retreat, Westgate-on-Sea. Conducted by Mrs. Rawlins. "I find the greatest difficulty to contend with in females is ill-temper, when the craving for stimulants is at its height. The signing of papers (agreeing to be governed by the rules and regulations of the establishment, and the instructions of the medical attendant) answers quite as well as a license, and prevents many acts of unpleasantness, such as going before magistrates."

Waverley is well situated and should be well patronized.

Vermont Sanatorium, Stanley, near Liverpool. Under charge of "Liverpool Ladies' Temperance Association." "The object of this institution is to give, with the aid of medical treatment, and religious influence, an opportunity of reformation to women anxious to overcome a habit of intemperance, which they find they are unable to control. It receives those who are able to pay, and those who are not; the latter class doing all the work. There are no hired servants.

"We find but little difficulty in retaining our patients; they know they have entered for one year, and some of them, who are married, would be sent back by their husbands if they

were to leave before the expiration of their term. The grounds are so secluded and private, and yet so ample that they have plenty of room for exercise; and, not being observed from the outside, they avail themselves of it, and are contented."—Miss MARY M. HOCKING, *Matron*.

Home for Inebriates, The Shrubbery, Leyton, Essex. Established twenty-five years. The proprietor says: "My experience is, that bad cases of confirmed inebriety can only be cured by compelling total abstinence for a period of not less than twelve months. I only undertake mild cases in the early stage, when they are more amenable to treatment. I am not licensed under the Act, nor do I wish to be. I can more readily obtain patients and induce them to place themselves under treatment by considering them merely as visitors, coming to reside with me for a time as a private medical man. I am happy to say that I have been tolerably successful, though some cases have taken two years to cure; but from six to twelve months is generally sufficient."—Dr. JAMES GREENWOOD.

Queensberry Lodge, *Edinburgh*, instituted in 1832. This is a "House of Refuge for the Destitute," and like other such institutions, in all civilised countries where they exist, many inmates are received who are brought to their low estate through strong drink, but no tabulated statement of the number of such is furnished, and hence this department cannot be reckoned among the institutions devoted to the cure of inebriety. It is rather custodial and industrial. There is, however, a distinct department for ladies of the higher class who are intemperate, in a separate and costly building. The prices are high, the appliances all superior, and twenty patients can be accommodated. There is a long list of officials, and of lady visitors, who render efficient aid.

Dunmurry, Sneyd Park, near Bristol, Gloucestershire. For both males and females, a limited number. Proprietor and his wife devote themselves to the patients, and are always with them. Daily family worship insisted on as

an essential in the rôle of treatment. The lessons for the day read in their order.

"Having attendants is a choice of evils: I do not have them. To place a man of intelligence and culture in the care of an ignorant, and possibly a rude, hireling, is therapeutically wrong. All sources of irritation should be avoided. Homes should be small to admit of personal supervision for the cultured class, and I take no other. I consider the first three months of a patient's residence should be given to physical renovation. The second three months should be employed in learning to enjoy life without the usual accompaniment of alcoholic stimulants. Such persons have been in the habit of thinking that their cups were essential to real pleasure in their social life. Let them learn the contrary fact, and enjoy the experience. The third three months they should learn to do just like sober and upright people do—live like other people—and the longer they continue to accommodate themselves to the new life the better for them and for all concerned. I have had clergymen as patients, and ninety per cent. of them have been led into inebriety by very hard work—fasting and loss of sleep—thus impairing appetite and demanding stimulants. Rest, abstinence, and tonics, establish a cure. Married women are the most troublesome; always restless, anxious to be at home, &c."*—JAMES STEWART, B.A., *late Surgeon in Her Majesty's Navy*.

There is one more establishment among the list of homes for inebriates that is so unique in its character and methods of procedure as to merit notice more for its departure from

* A CURIOUS CASE.—"A lady got into the habit of chewing rice; could not sleep without it. Her husband frequently got up in the night to procure it for her. It fastened upon her to an alarming extent. A child was born, and so soon as it grew up and was able to masticate, it took to the rice also. This alarmed the mother, and after a severe and protracted struggle the rice was abandoned."

recognised practices than for its claim to be doing a good work for the cause of temperate living. It is located near Bristol, and is conducted by its female proprietress.

On a visit by the writer he was informed that she was having remarkable success in the treatment of her cases—all being men—by the process of educating them to be satisfied with a specific quantity of malt liquor. Hence she gave her patients each three goblets of beer per day. Her theory is that as the appetite cannot be destroyed, it can be trained; and so trained, in the use of beer, as to keep within the bounds of healthy stimulation. Hence the practice referred to.

This view is at variance with the principles and practice of every home, or asylum, or hospital, in the United Kingdom and in America, so far as is known. With such an array of opposite opinions from the world of science and of morals, such practice must be sustained with a host of living testimony of long standing before the doctrine of total abstinence can be abandoned or modified as an absolute and imperious necessity in the curative process of alcoholic intoxication.

The following rules are recognised as cardinal by *all other* Retreats and Homes:—

No intoxicating drink to be introduced on the premises under any circumstances, unless ordered as a medicine by medical superintendent.

No drug of any kind to be taken by patients, except with consent of the physicians.

Such are brief notes of seventeen Homes or Retreats for inebriates, all of which, with one exception, were visited by the writer during September and October last. As already stated, five are licensed under the Habitual Drunkards Act. The remainder are conducted as individual enterprises, and are capable of doing good to a helpless class of the community. The Dalrymple Home is the only institution of the kind in England, however, the managers of which are prohibited from receiving any pecuniary advantage from the investment.

With the exception already referred

to, where beer is prescribed, there is a singular uniformity in the ethical code of all the institutions. No liquor is allowed. Permission must be had to leave the premises. Money must be given up. In some instances correspondence is inspected. In some, fines are imposed for neglect. Religious services are recognised in all, while in those conducted under the patronage of religious Orders church observances are enjoined; but the great need of every one is to keep a more complete history of its inmates. A physician is connected with each Retreat, and yet there are but few, if any, comprehensive clinical records. It is not enough to record the name, age, social position, occupation, length of time of the drink habit, and whether the indulgence was constant or intermittent. All these are well enough—nay, important; but what the scientific inquirer wants to know, and what the statesman wants to know, is the cause of the drink habit; whether it is physical, psychical, or moral. What influence has society and the environment of the patient upon his life? What effects are produced by study, occupation, and general habits other than drinking.

What is the effect of meteorological conditions upon the temperament and conduct? The microscope should be brought to the work, the secretions and excretions being examined from time to time. Analytical chemistry should be availed of to assist the microscope in its discoveries, and so every collateral aid, and all allied conditions, so far as may be, should be compared, and the lessons they teach faithfully learned.

Within the whole domain of physiological and psychological research there is no subject to compare with the single fact of drunkenness in its scope and bearings, and which demands of the student more patient and painstaking study.

The normal function of every Home, or Retreat, or Asylum, is not simply to cure or benefit the inebriate, but to make inebriety a study for the benefit of the community. And every Retreat should present to an awakened and

interested public, at least once a year, a statement of its clinical observations and conclusions, showing the disease aspect of drunkenness in such an intelligent form as to create an abiding interest in the results of research and study, so that the community at large may be partakers of the enlightenment which such inquiries may reveal.

THE ACT.

Some of its provisions are admirable, but why it should be operative for ten years *only* is not apparent. Its great defect is that it requires a candidate for admission under it, to appear before two magistrates sitting together, and over his legally-attested signature confess himself to be what the law describes him to be, to wit, "dangerous or incapable of managing himself or his own affairs." Is such a person competent to be qualified before justices, and to obligate himself to "conform to the regulations for the time being in force in the Retreat," the chief of which is to abstain from alcoholic drinks or drugs unless prescribed by the physician in charge? If he continues to abstain he is cured, so far as the object of his commitment is concerned, and, to say the least, this has the appearance of needless, if not contradictory, legislation.

The law does not, however, prevent persons from entering Retreats voluntarily, and it is far better that they should do so, by making a similar contract with the Superintendent of the Retreat, *who should be empowered by statute to restrain* inmates when, in violation or threatened violation of their obligations, restraint becomes necessary. Very often the knowledge on the part of the patient that the physician holds "the power of the key" is of itself sufficient to deter him from attempting escape, or other violation of trust. The majority of Retreats in England are for women, and are based upon the voluntary principle. By far the larger number of their occupants are volunteers, and the average duration of their residence is not far from a year.

Every drunkard knows that there

are times when he needs wholesome restraint, and that such are times of danger, when the impulse assails him and the passion overpowers him. As he would confide in a friend who would defend and protect him, so he would respect a law that would empower another, by judicious and timely aid, to restrain him when necessary from debauching himself.

That so many on both sides of the Atlantic have voluntarily committed themselves is a sublime fact which attests their surviving manhood, and also an earnest desire for recovery. It also certifies to their appreciation of efforts put forth in their behalf by the homes and retreats, whose doors are ever open to receive them.

If the Government would legalise the house regulations, which are always in harmony with the provisions of the Act, making them supplementary to the Act itself, the signature of the applicant being attached to them on admission, he would become a joint party with the State, and the superintendent, the latter assuming the control, and the Government acting as the protector of the patient against undue exercise of authority.

For cases of confirmed dipsomania, in which compulsory interference may be necessary, action should be taken by a special commission, with powers similar to those in charge of lunacy cases.

Paupers who are inebriates should be detained for curative purposes, and also indigent persons, not paupers, but yet who are unable to meet the cost of residence and treatment, both of whom should be committed for long terms, and thus prevent such frequent discharges and re-commitments as now darken the penal records. Such power might be given to poor-law guardians, or to special local authorities.

Drunkenness is not a mere accident in the experience of life. It is an established fact in human history, that has kept pace with the centuries, from the beginning until now. It has proved itself to be beyond the reach of human laws. Law cannot penetrate the occult forces of humanity, and search out the intricate by-ways of the morbid

element which is its source, and which is so intertwined with vital processes as to poison the very channels through which they flow.

Resolutions and edicts, pledges and covenants, good as they are in themselves, and intended to strengthen the moral sense, and restore the moral nature, must succumb at times to that which is inherent, vital, and overwhelming. When the *crave* comes, it demands satisfaction, *like hunger*.

Drunkenness, therefore, is a study, not for the philanthropist and reformer alone, but for the physiologist, with his microscope and its revelations; for the chemist, with his analytical tests and reactions; for the psychologist, with his spiritual affinities and contradictions; for the statesmen, with his political influence and legal research; for the minister of religion, with his theologic lore and his appeals in behalf of virtue and self-control. Nay! it is more, for it cannot be approached from either starting-point, and pursued to its logical result, without falling short, far short, of the grand consummation. This can only be reached by encompassing the whole realm of inebriety, which extends from the remotest constitutional cause in the individual, to the outer limit of its most revolting desolations in the community.

If we would gather results that are in a broad sense exhaustive and conclusive, we must explore all its manifestations, and consider the temperaments and characteristics of its victims.

We have seen in the foregoing pages, how learned and scientific men have testified that intemperance is a disease, and the result of its treatment in Retreats; and if we add to this evidence, the co-operative sentiment of temperance organisations—the Alliance, the League, the Good Templars, &c.—there is every reason to look for a solid public sentiment in England that shall favour the treatment of inebriety in Homes such as have been favourably referred to, and which will demand such legislation as shall render them effective in a scientific as well as moral sense.

THE FUTURE.

With such legislation as is suggested, and sufficient appropriations of money to enable Retreats to pursue the study with scientific care and accuracy, great achievements may be anticipated. Already a commencement has been made on this line, but funds are needed to procure instruments of precision, and employ experts, when needed, for special topics.* Modern physiologists and chemists are agreed that there is a strong affinity between *some of the alcohols* and the nerve centres, but what is its full significance, and why it should belong to some alcohols more than to others, is yet to be disclosed. Chemistry has revealed the fact that the word Alcohol, as we are in the habit of using it, should not be so used, as there are several varieties of it, with quite different toxic powers, which should be studied separately, and their varied qualities and effects upon the human structure at the same time examined. This is an important phase of the subject, which is demanding special attention at this time. And so we should enter, by means of the institutions, into other special fields of research, which need not be enumerated here.

So far as religion is concerned, there are a number of retreats founded exclusively on a religious basis, where the means of religious instruction, the value of a religious example, and the encouragement to pursue a religious life, constitute the chief portion of every day's curriculum. Each one of these religious homes, however, has its medical adviser, and no patient is considered safe to resist the temptation of the saloon without a clean bill of health.

As to the statesmen, the legislator, and political economist, he soon will learn, if he has not already, that it is wiser to save men from becoming a public burden, than to allure them into ways of excess and degradation, and will legislate accordingly. He will

* The Dalrymple Home has recently introduced microscopic and meteorological observations, in addition to the ordinary statistical records.

discover that a wise economy prompts Parliamentary aid in supplying retreats with sufficient means to enable them to proceed with their ætiological and pathological researches, in the hope of eliminating the causes of inebriety, so far as the individual is concerned, and that ample provision will be made to assist and support those retreats that are not self-supporting.

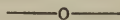
There certainly is no grander work at this time engaging the thought of the British nation. The retreats that are conducted as they should be, recognising the disease, and applying remedies, necessarily embrace the whole range of the inebriate's existence, and of all the influences that affect his life, while they neglect not the moral and religious side of the subject.

The work of other instrumentalities, however, is not to be discredited. Each has followed its own course, and accomplished results more or less satisfactory. With them there is no controversy. But now, we are crossing the borderland, and entering upon possessions, which science has discovered, the cultivation of which promises a goodly harvest. The retrospect is full of instructive experience. The present is in possession of vast resources. The future will be a gradual unfolding of truth—a continuous repetition of discoveries. Every properly equipped Retreat, or Home, or Asylum for Inebriates, will stand as a beacon, casting its gleam on the horizon beyond. Every

individual inebriate who submits to the scrutiny of science, while he receives the protection of his fellows, will be a practical factor from whose interior being shall be eliminated the hidden causes of the mysterious "drink-crave" that possesses his brain, and impels him onward toward threatened ruin.

Why not this? We live in a day of enterprise, of energy, and advancing knowledge. The times are rich in expedients. Resources are unlimited. True religion and science are no longer at variance. One is handmaid to the other, and both are one in design and purpose. The better part of the inebriate is asserting itself afresh. It comes struggling up through the mist of doubt and fear, and pleads for help. Help is furnished in measure and quality as never before. Drunkenness can be traced through all its wanderings, from the incipient impulse, to its final, fatal breath. When this is learned, sobriety will be practised, not so much on account of pledges, signs, and mottoes, as from an intelligent appreciation of the causes and career of inebriety.

It is no Utopia that lies at the end. It is England's cause, with British brains pushing it on, and British law to sanction and sustain. It belongs to the people of the United Kingdom, to whom it is especially commended now in its physical aspect.—*Quarterly Journal of Inebriety*, Jan. 1, 1886.



MANIFESTATIONS OF ALCOHOLISM.

THIS is the work of a careful observer, a clear thinker, and an able writer. It extends to nearly 600 pages, and treats of alcoholism in all its ramifications. The author deals in

* "De l'Alcoolisme et de ses diverses Manifestations, considérées au point de vue physiologique, pathologique, clinique, et médico-légal." Par Dr. F. Lentz, Médecin Directeur de l'asile d'aliénés de l'Etat à Tournai. Bruxelles, 1884.

general considerations on the physiological action of alcoholic drinks upon digestion, circulation, the heat of the body, respiration, the blood, the kidneys, and the nervous system. He acknowledges that this last is the most difficult to determine. New researches are indispensable to establish the true nature of the action which alcohol exercises upon the whole nervous system. He endeavours to prove, however, that alco-

holic stimulation, which is usually believed to infuse fresh energy and vigour into the brain and nerves, is only factitious, that it very indirectly reaches the nervous system itself, and exercises an indirect influence upon the motor, sensory, and intellectual functions. In fact the stimulation of the nervous system is regarded as the consequence of cerebral excitement, the complex nature of which may be difficult to establish, but is analogous to the effect of good news upon the mind.

Passing over those sections which refer only to ordinary intoxication, we note the description of maniacal excitement due to alcohol, which contains a good sketch of the prodroma, course, and termination of the attack. Lethargic sleep, lasting from twelve to twenty-four hours, may completely put an end to the outbreak of fury. The most characteristic circumstance here is the complete re-establishment of the previous mental activity without the persistence of morbid manifestations. Homicide or suicide may have been attempted during this attack of acute alcoholism, and striking cases are given in illustration. Closely allied is convulsive intoxication, the stress of the attack falling on the motor system. The attack is sudden, being preceded by little more than irritability, precordial pain, and headache. A graphic description follows of the contortions, dangerous violence, and loss of consciousness, the manifestations of mental activity being mainly hoarse cries and inarticulate sounds. When aroused from the profound sleep which terminates the crisis the patient retains no memory of the storm through which he has passed.

Dr. Lentz treats of the abnormal states of intoxication which occur among the insane, imbeciles, and epileptics. It is laid down as a general principle that all who fall under the great class of mental maladies present a greater susceptibility to alcohol, and display in their symptoms of intoxication special characters which carry it beyond its ordinary type. The general paralytic is usually very

susceptible to alcohol, in fact he can rarely absorb a sufficient quantity to permit the successive symptoms of intoxication to follow their normal course. A true maniacal excitement is the principal symptom, and often in the first stage occasions *vagabondage*, quarrels, thefts, assaults, and even murders. As the author observes, it is strange to see this same general paralytic, who bears alcohol so badly in the fully-developed stage of the disease, able to bear great excesses, and yield with difficulty to intoxication when dipsomania results from, and constitutes the first symptom of, general paralysis (page 121). Dr. Lentz insists, with reason, that the intoxication of the weak-minded is the most abnormal, and generally the most dangerous. With regard to the dipsomaniac, he scarcely knows, paradoxical as it seems to say so, what true intoxication is during the active stage of his disorder; it consists rather of a continual semi-maniacal agitation, with rambling and incoherence. Certain authors, as we know, hold that intoxication is always due to a pre-existing chronic alcoholism. Granted that it is rare with those who only occasionally take alcohol, still, glaring exceptions do not permit us to regard it as an absolute rule. In the exceptional cases there is a neurotic predisposition which explains the origin of the abnormal intoxication. This altogether special susceptibility to intoxicating beverages which may so easily lead to a maniacal attack, nearly always depends upon a constitution marked in the neurotic by a tendency to delirium and hallucinations in the course of various disorders, especially fevers; great mobility, excessive susceptibility to atmospheric influences and to diet, and exaggeration of vaso-motor excitability under the action of the slightest mental impression. Hence, breathlessness, palpitations, blushing, precordial anxiety, vague uneasiness, rapid and facile appearance of the same phenomena under the influence of drink, excessive irritability of the nerves and senses, too continuous a state of irritation and emotion, increase of reflex irritability and ten-

dency to convulsions. In the psychopathic constitution there is great excitability, instability of the moral sentiments, frequent change of humour without cause, inconstant sympathies and antipathies, too vivid an imagination, and rapid and exaggerated, but very momentary voluntary determinations. Dr. Lentz is one of the few medical writers who point out that the neurotic or psychopathic constitution, although usually hereditary, is not necessarily so, but may be acquired by causes which profoundly affect the cerebral and nervous functions, as traumatism, typhus fever, and other zymotic affections, meningitis, moral shocks, &c. From these causes, as well as from heredity, may unquestionably arise a tendency or susceptibility to alcohol which gives rise to many forms of pathological intoxication.

In diagnosing maniacal from ordinary drunkenness it is necessary to bear in mind that the former is marked by sudden outbreak, while the latter pursues a regular course in its commencement, progress, a certain period of continuance, and then decline. In the former, movements are well directed, and remain under the control of the will. In the latter, motor action is not long maintained, and soon becomes feeble, the drunkard having little power of resistance. Hence the childish conduct of ordinary intoxication and the violent and well-combined acts of the pathological form; in one there is restlessness and progressive relaxation, in the other the display of extraordinary force. The mental condition is fundamentally different. The maniac, although unable to give an exact account of the situation, will recognise his *entourage*, will understand the questions asked of him, and may even reply sensibly, there being, therefore, a certain conscious intelligence which renders the patient all the more dangerous. There is, however, in that variety of pathological intoxication which assumes a convulsive form an almost complete mental stupor, and in this respect it is more allied to the grave forms of ordinary inebriety. Pathological intoxication is marked

by profound sleep, and, as the quantity of alcohol has been insufficient to cause general disorder in other organs, its disappearance is complete. Ordinary drunkenness, although usually followed by profound sleep, is not marked by the elimination of alcohol, the effects of which on the system continue for a considerable time. Its victim awakes fatigued, vertiginous, or dyspeptic, whilst the maniacal inebriate shows no signs of indisposition. Lastly, the patient, on recovering from maniacal or convulsive intoxication, remembers nothing. This rarely happens after a drunken bout. Attacks of acute alcoholic mania, arising in the course of chronic alcoholism, are often confounded with pathological intoxication, but the former is characterised more especially by terrific hallucinations, emotional paroxysms, furor, and stupidity. Unfortunately, clearly defined as these distinctions seem on paper, the several forms are considerably mixed in practice.

Dr. Lentz has to confess that the different forms of abnormal intoxication are not connected as yet with a definite pathology. Pathological intoxication is only a transitory insanity having a special origin, and yet alcohol is often so little taken into the constitution that in most cases it does not offer the general characters of alcoholic delirium. Of hallucination there is not a trace; the change in moral sensibility so characteristic of really alcoholic disorder is wanting. It is indeed as far removed on the one hand from the group of true alcoholic mental disorders as it is on the other from ordinary intoxication. The term pathological intoxication is therefore employed to mark its relations with alcohol, and at the same time the differences which separate it therefrom.

In discussing the relations of intoxication and insanity the author points out, in a philosophical manner, the resemblance and the difference between the two.

The analogies between general paralysis and the effects of alcohol are minutely described, and the author adopts the opinion of Bayle that drunkenness, if permanent instead of

transitory, would be nothing else than general paralysis. The pathological analogy lies not only in the organ affected, but in the region, namely, in the pia-mater and the cortex; as also in the nerve-cells and the morbid evolution which mark the two affections. It does not, however, follow that intoxication is a state identical with general paralysis.

We reserve for another occasion a

further analysis of this work, of which the present brief notice, consisting mainly of the author's opinions, will serve to show that this difficult and important subject, which in its criminal relations was discussed at the last quarterly meeting of the Association, has in Dr. Lentz a thoughtful expositor and an experienced observer.—*Journal of Mental Science*, April, 1886.

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THE TRUTH ABOUT ALCOHOL.

(From the "British Medical Journal," March 13.)

THE temperance movement is one of the most notable phenomena of our time. In every town and village of our country total abstinence societies—whether Bands of Hope, Good Templar Lodges, or Rechabite tents—exist and flourish, and the United Kingdom Alliance is one of the most potent of existing organisations. We understand that in the new Parliament the teetotal party number forty, and that the advocates of local option have received a great accession of strength. It is a most significant fact that all the working men's representatives in the House of Commons are total abstainers.* To those who can read this fact aright, it speaks not merely of hopeful augury for the future, but of the grim tragedy of the past. Working men alone have felt the full curse of intemperance which has been the chief cause of their poverty and degradation; hence, no doubt, the attitude of their representatives.

The medical profession have a heavy responsibility in this matter, which they are not disposed to avoid, and which, moreover, they cannot avoid if they would. To a large extent, they are the court of appeal upon this question. They are familiar with scientific teaching upon alcohol, they see daily the fruits of intemperance, and they are ever watching the effects

of alcohol both in health and in disease. The public look to us for guidance and instruction; our lightest word has often more weight than the most fervid oratory of temperance lectures; and our attitude, whether negative or positive, has a powerful and far-reaching influence. On all these grounds, it is imperative upon the profession that their opinions on the alcohol question should be well weighed, firmly founded in unassailable truth, and free alike from the reproach of prejudice and of passion. On the one hand, we cannot be indifferent to a great moral movement, advocated undoubtedly, in many cases, from the purest patriotism and the highest Christian charity; nor, on the other hand, can we sanction the employment, even for the noblest ends, of a single questionable statement or argument, nor sacrifice a vestige of truth even at the holiest of shrines. No cause ever derived lasting benefit from error. Truth is great and will prevail, not merely because it is right that it should prevail, but because in the nature of things it must prevail. The advocates of temperance, who not rarely have more zeal than knowledge, would do well, therefore, to remember, that any unauthorised or questionable statement about the physiological action or therapeutic application of alcohol is a serious injury to their cause, and tends to alienate from them the sympathies of the cultivated and reflec-

* This is a mistake. Some are abstainers, but not all.

tive classes, whose opinion in the long run determines national opinion. It is, for example, frequently asserted on temperance platforms that alcohol is a poison. Now, all depends upon our definition of terms. A poison is usually defined as a substance which in small quantity injures health or destroys life. It is undoubtedly most true that an individual can poison himself with alcohol, and cases of alcoholic poisoning are unhappily all too common; but poisoning with sulphuric acid or with chlorate of potash is not unknown, yet no one dreams of styling these substances poisons, as popularly understood. If the quantity necessary to produce the fatal effect be regarded, sulphuric acid has a much better claim to the title of poison than alcohol, inasmuch as a dose of a teaspoonful has been known to destroy life, whereas it requires many times this quantity of alcohol to produce the slightest poisonous effect.

Again, it is frequently asserted from temperance platforms that moderate drinking in all degrees and in every instance is injurious to health; and it is occasionally even denied that alcohol possesses any virtue as a medicinal agent. Such views are opposed to all medical evidence; and it is much to be regretted that they should be rashly propounded, to the great injury of the cause which their advocates are anxious to serve. Enthusiasm for a high object is admirable; but when truth is violated, she never fails to punish the transgressor for her *læsa majestas*.

What then is the truth about Alcohol? We think it admits of being stated with certainty and precision in its broad outlines, and that the minor details of the controversy hardly affect the main contention. We take it as conclusively proved, in the first place, that alcohol is not a necessary food, and that the most perfect physical and intellectual vigour is compatible with rigid total abstinence. We may go a step further, and confidently assert that people in perfect health are as a rule better without alcohol. The question may almost be regarded as finally settled, when a

writer of Sir Henry Thompson's eminence speaks as follows: "I am of opinion that the habitual use of wine, beer or spirits, is a dietetic error, say, for nineteen persons out of twenty. In other words, the great majority of the people at any age or of either sex, will enjoy better health, both of body and mind, and will live longer, without any alcoholic drinks whatever, than with habitual indulgence in their use, even although such use be what is popularly understood as moderate." ("Food and Feeding," page 98). In view of the great mass of evidence to this effect, we must own to feelings of surprise and disappointment at finding Sir William Roberts, in his recent work on "Dietetics and Dyspepsia," throw out a somewhat obscure hint that, although a non-alcoholic regimen may be harmless to the individual, it may possibly affect the race injuriously in the course of two or more generations. We are most sceptical of the existence of any evidence to warrant this surmise. The evils of intemperance are manifest; the evils of total abstinence are unproved and improbable. The excellent health enjoyed by the great and increasing army of teetotalers, the returns of insurance and benefit societies, the example of abstaining nations, seem to us proof positive that total abstinence is at least harmless and safe. Alcohol may be accorded a place as a luxury; it certainly has a definite value as a medicine; but we think it most desirable, in the interests alike of truth and of national morality, that the medical profession should authoritatively and unambiguously declare that it is in no sense a necessity. It is on this point that the controversy really hinges, and we think the evidence regarding it is perfectly conclusive.

Secondly, we think we can affirm with equal confidence that, while alcohol possesses a certain and considerable medicinal value, its therapeutic range is gradually becoming more circumscribed. Time was, when it was the first suggestion and the last resort of the distressed practitioner. We are wiser now, less confident of its virtues, less ready to trust so potent

a weapon to hands that may employ it in self-destruction. There are hospitals which have reduced their spirit-bills to one-half or one-fourth of their former amount, with at least no obvious injury to their inmates. There are diseases, once uniformly treated with alcohol, which we now know to run at least as favourable a course when it is withheld. Yet we think we speak the almost unanimous mind of the profession when we say there are cases which hardly any well-trained medical man could treat without alcohol and keep his conscience clear. In pneumonia, for example, the benefit from it seems decisive. In typhus and typhoid fever there are crises where the free use of alcohol seems literally to snatch the patient from the jaws of death. On the other hand, we deprecate most strongly the routine practice of deluging all such cases with stimulants, and urge that each case should be separately judged in view of its symptoms, alcohol being prescribed with the same deliberation and circumspection as opium or aconite. When we leave the acute pyrexial diseases, we are on less secure ground regarding the action of alcohol. It seems of value in many cases of phthisis, and especially in soothing the last stages of the malady; but the form of stimulant needs careful selection, and, not rarely, it is better omitted altogether.

The above cases will not seriously tax the judgment of the practitioner; but, with regard to patients suffering from simple debility, anorexia, &c., the decision regarding the use of alcohol is most anxious and difficult. It is beyond question that such cases often benefit decidedly by a little good spirit, or a glass of generous port or burgundy. Appetite and digestion are often thereby promoted, and sleep is sometimes induced to return. Yet these cases are just the chosen material of which inebriates are made, and the relief of dyspepsia or insomnia would be dearly purchased by running the gauntlet of intemperance. Everything depends upon the patient; and our course of action must be guided not merely by the nature of

his ailment, but upon our estimate of his strength of will.

It is perverse to assert that every moderate drinker is a drunkard *in posse*, or that we must withhold alcohol in every case where there is the faintest possibility of its being abused; but the trained observer will learn to distinguish those cases where the risk of excess is so patent as to outweigh the prospective advantage which might reasonably be hoped from this line of treatment. Two rules may be laid down with confidence. Alcohol should be rigidly prohibited in hysteria and in all forms of quasi-hysterical debility, and it should be still more strictly withheld in every case where there is an undoubted hereditary tendency to intemperance. A medical man may feel disposed to take the ground that he is accountable only for the conduct of the existing malady, and has no responsibility for the after-consequences of his treatment. With much respect for those who may differ from us on this point, but with great earnestness, we submit that to pull a patient through the crisis of pneumonia or typhus, unless under urgent circumstances, at the terrible cost of developing a clearly-marked hereditary tendency to intemperance, is not calculated to advance either the honour of the medical profession or the best interests of humanity.

We urge the profession to realise their great responsibility and their immense influence upon this question. Their views should be deeply pondered, their words weighty and well-spoken. They must hold the balance between selfish indifference, and a zeal which not seldom borders on fanaticism. They must earnestly desire to know the truth, and proclaim it through good and through evil report. They must refuse to be coerced into abating one jot of their deliberate convictions at the bidding of any organisation; but they will, we think, learn to look with a more and more favourable eye upon a great moral movement which will not in all cases gain their adhesion, but which has a powerful claim upon their sympathy and respect.

MEDICAL HELP TO ABSTAINERS.

By R. E. HEATH, M.D.,

Surgeon-Major Army Medical Staff (half-pay), Hon. Surgeon Torbay Hospital.

THE life abstainer and the abstainer whose renunciation of alcoholic beverages is confirmed by years of practice require no help; they can go without extraneous aid, and are in a position to help others. Evil example or advice, or even mere curiosity, may influence any one who has never acquired the unnatural taste for alcohol to try its effects, but are not likely to be strongly operative after years of discretion have been arrived at; while those who have made the happy choice and have given up for a sufficient period what they once thought so good, appreciate the difference from personal experience, and lapse of time only confirms their conviction that whereas once they were blind, now they can see plainly—they know well that alcohol was an incubus they are all the better for having got rid of.

To neither of these classes, then, are the following remarks addressed—they are meant rather for the help of others who deserve all our sympathy, for those who are not yet completely free from the trammels of the social customs they have been brought up in, and in whom it may be there are still some lingering vestiges of the prevalent opinion that for most, and specially for the weak or hard-worked, alcohol is a kind of necessity—an evil, perhaps, but a necessary one. While welcoming recruits to the ranks, let us inquire what their difficulties are likely to be, and give them a helping hand if we can.

The influence of enthusiasm has been most beneficial in helping many to break evil habits, and it is not to be disparaged in our plans for the reformation of society, but we see proof in plenty, from the days of Father Mathew down to the present time, that in too many cases its good effects are transitory, and that if we would avoid relapses and make a great and permanent change in the habits of the community, we must enforce the fact that the habitual use of alcohol is a

great physical evil; and once this conviction is fully brought home to the minds of the majority, or even of a large number of rationally disposed men and women, the instinct of self-preservation which is so strong will have free play to cause avoidance of a known source of danger and disease, and then the work of temperance advocates will be well-nigh done.

When the bodily functions have been carried on for many years with the abnormal help of stimulants we must not expect them all at once to work smoothly on being left to their natural resources; we must be prepared to experience more or less nervous perturbation and depression, and these feelings have to be fought against and the greatest care taken that they do not lead to a resumption of the discarded remedy. If the will is strong enough to prevent this, then there is apt to be a desire for some substitute, and this is certain to be a disappointing expectation; the action of alcohol is too specific to be replaced by that of any harmless nostrum, and when one is convinced that its effects are mischievous, it is not wise to wish to replace it by something else, even if this could be done. No; our best and only plan, if we desire the restoration to a healthy condition of those organs that have been put out of order by our own habits, is, having given up the habits, to fall back on nature's hygienic laws, which are simple enough. Let the money that used to go for alcoholics be spent in procuring nutritious and digestible food; take as much exercise in the open air as possible; occupy the mind with business or intellectual work; enjoy a fair amount of recreation and avoid worry. If circumstances admit of these suggestions being carried out to any fair extent, the good effects quickly produced will be sufficient recommendation, and persistence in the new and healthy state of life will daily become easier, till at length we will wonder

that there ever was any difficulty at all about it.

In cities and where sedentary pursuits are a necessity, the trouble of getting out of the old groove is greater as the help of fresh air, nature's finest tonic and sedative, is wanting, and many other depressing agencies are at work; but people so circumstanced should reflect that it is for them that alcohol is most pernicious, and that they should, therefore, brace themselves to get rid of it at all costs, and they will soon find that their greater enjoyment of the wholesome pleasures still within their reach will amply repay them for the pernicious ones they miss.

When the system has been encumbered with a useless amount of fat, as is so often the case when alcoholic stimulants have been taken as adjuncts to food, there will probably be a loss of weight when they are discontinued; but this need not be a cause of anxiety or regret, as it is nerve power and muscle that have to do the work of life, and not adipose tissue, which in any excess is detrimental to vigour, and is in itself a sign of degeneration.

It is sometimes said of abstainers that they are a pale-faced folk, and when this is so they can assure their critics that they prefer the colour nature gives to the florid hue of dilated vessels paralysed by alcohol, which only passes as a sign of health with very superficial observers, and they can console themselves with the reflection that if they see in the looking-glass a tinge below the average of health it is more healthy and becoming than a complexion variegated with blotches and grog-blossoms.

Now abstainers who have been in the habit of relying on the narcotic power of alcohol as a means of producing sleep will most probably have some trouble for a time when they begin to do without it, and in this class of cases there is often a strong temptation to prevent the weariness produced by insomnia by substituting some other sleep-producing drug, but this is a proceeding fraught with the greatest danger. "Not poppy, nor

mandragora, nor all the drowsy syrups of the world" can medicine us to healthy sleep; they have their uses in some instances as temporary measures, but we cannot expect to get permanently right by replacing one poison by another. Attention to the general rules of health indicated above will promote the removal of alcoholic products from the system, and with patience natural sleep will be restored in good time.

People often buoy themselves up with the idea that by stopping the habit of taking alcohol at any time when they find it doing them harm, they can immediately get free from all its ill effects. Nothing can be more unreasonable than this, and the danger is that when they discover their mistake, they are tempted to resume the habit, instead of giving sufficient time for their organs to learn to work without it, and be restored as far as possible to their primitive state; they should be thankful that they are no longer aggravating the mischief already done, and not allow their uncomfortable sensations to drive them back again to the original cause of their ailments; bearing in mind that prevention is both easier and better than cure in this as in all other cases.

Even the most moderate drinker may expect some trial of self-control when he dispenses with alcohol, but every day passed over makes the difficulty less, and the feeling of independence from finding health re-established on a surer basis increases in proportion.

If the indulgence in time past has been so great as to have induced more or less permanent damage to the healthy function of the stomach, the right way to meet the case is to bring the demands upon that generally over-worked viscus within proper limits and to encourage and cultivate its diminished powers by digestible food, moderate in quantity and carefully masticated. Such measures will be efficacious in the majority of cases; but should dyspepsia persist after a careful trial of them, medical aid should be resorted to, and under no circumstances ought the damaged

organ to be spurred up by alcohol to do work it is otherwise incapable of, or else the days of its utility will be shortened.

The question of what temperance drinks to use will present itself to many new abstainers. They will probably try a good many at first, and either find they disagree or that they grow tired of them, in which case the conclusion that good water, when it can be obtained, stands at the head of the list, will soon be arrived at. There is no greater aid to abstainers than a good water supply. We take much care and spare no expense to get it laid on to our houses as pure as may be, and with the least possible amount of solid matter in solution, and having got it we too often set it aside for other purposes, and drink with our meals instead, if not alcoholic beverages, their various saccharine and aromatic solutions that are by no means of an equal value as solvents for nutriment, and nutriment until it is dissolved can do us no good, and may possibly do harm. Everyone interested in the temperance cause should take every opportunity of improving the water supply of our towns and villages, and of promoting its use both internally and externally.

When highly-flavoured drinks of any kind are taken with food they tend to divert the attention, so to speak of the sense of taste; the process of mastication, which is such an essential preliminary to good digestion, is likely to be slurred over, and the food passed on to the stomach in a condition to cause irritation and disagreeable sensations that are known to create a demand for the anæsthetic action of some alcoholic drink to mask them; this is a frequent cause whereby the craving for alcohol is maintained, and is one that abstainers may easily avoid with care; they should abjure hurried meals at refreshment bars or elsewhere, and go without food for a time sooner than

annoy their digestive organs with the doubtful sustenance afforded by such matters as sandwiches swallowed in haste. Most people have been originally endowed by nature with a power of digestion in excess of their absolute requirements, and even when this has been greatly reduced by alcoholic ill-treatment it is rare indeed to find that there is not sufficient remaining to keep the processes of nutrition up to an average working level, if it is only given fair play and all sources of its impairment avoided.

The vegetable tonics and artificial digestive ferments are valuable aids in some cases, but the object should be to try and do without them, and establish a more lasting and natural method of living.

When the craving is hereditary, or of the over-powering strength seen in dipsomania, preparations of cinchona have been used as palliatives with much advantage; but in such cases the forcible action of the will from some strong motive, or, where it cannot be relied on, personal restraint, are the only means that can be permanently depended on for a cure. Fortunately, however, the majority have not cultivated the desire to anything like this extent, and all that most people want to make and keep them abstainers is some inducement to accept the knowledge of the uselessness and disadvantages of moderate drinking, and the great benefit to health and the greater chance of long life they obtain by giving up the trifling pleasures to be got from it. When this degree of education becomes general, it will promote the well-being of the community more than any standard that has yet been discovered by our School Boards, and in the meantime there is ample scope for every effort for the instruction of the willingly ignorant and for help to new abstainers.

ALCOHOL IN WORKHOUSES.—The Local Government Board having called for a return of the cost of wine and spirits issued on medical certificates in workhouses for the last ten years, a number of returns have been published, showing a great reduction in many localities since the former return was issued in 1876.

A CLERGYMAN AMONG THE DOCTORS.

I.

SOME years ago, when I was at the university I overworked, or rather I suffered from having too many irons in the fire—college work, literary and other societies, temperance, Sunday-school visiting and teaching, besides rowing, racquets, fives, volunteer drill and shooting, and those countless employments which make University days the happiest of a man's life. In my tenth term I had to abandon honours, and arrange for a "charity" degree, called an "ægrotat," given to a sick man who would certainly have taken honours.

On medical advice I left Cambridge, and came home for rest and gentle riding exercise in London. A highly distinguished physician and earnest Christian worker, since gone to his reward, prescribed strychnia, quinine, and hydrochloric acid, and added wine. Of course, that set my temperance back up, and I asked, as meekly as I could, "What sort of wine, how much, and how often?"

I fancy the dear old doctor was a little nettled at my implied censure on the vagueness of his prescription, as his tone was a trifle sharp when he answered—

"Six glasses a day of the best port wine, with food."

"But really—six glasses! I have scarcely ever tasted wine, and the weakest claret is hot to my throat, and—

"I knew that; otherwise I should have said eight."

"But must I *begin* with six whole glasses?"

"You may begin with four."

I was regular in attending to the instructions, except that I began with two glasses, and added water, but headache, and lassitude, and pulse at forty-two to forty-eight continued to be my ordinary symptoms. No very rapid improvement probably should have been expected. But my friends determined to have a second opinion, and asked the good old doctor to suggest a name. He

at once said, "Try Dr. Russell Reynolds over the way."

The result was startling.

Almost the first question, after a very careful jotting of every detail was—

"What do you drink?"

"Well, the fact is, I have been ordered wine by Dr. S—, and I am taking it; but I am anxious to be an abstainer, if it is possible, as I have——"

"Oh, that's all right," he broke in; "I was just going to say you would be better without any such drink."

Home I went in triumph, with a strong liver prescription (nitro-hydrochloric acid, taraxacum, and cascarrilla bark), with pills of Indian hemp. My friends were firm believers in "a little wine for the stomach's sake," and were rather disappointed. My father felt sure there must be some mistake, and went with me a week later for a second interview with Dr. R. Reynolds.

"My son has a very strong aversion to wine, but don't you think he would be the better for a little?"

"I will reconsider it, but—let me see;" and again the symptoms were carefully gone over. At last he resumed: "This is not the sort of headache that a glass of wine will remove. No: I certainly think he is much better without any wine."

Of course this was final. The opinions of some others besides myself as to the prescription of wine by learned physicians received some modification.

Still, however, the headaches were as severe and constant as ever, and the retina still showed congestion. Two years' rest was talked of, but happily a few months of rest and travel brought partial relief, and in a year I was doing a little idle work in low London, and in two years I was seriously reading theology.

Most doctors would undoubtedly have ordered me wine. Even now-a-days they are doing it continually in cases of clerical and other break-

down. The prescription may succeed for a time by totally or partially preventing one whole class of work—viz, that connected with the Temperance Reformation. But if patients will not yield too easily perhaps the doctors will concede something. A second opinion may be suggested or taken. I would say with all my heart, it is worth trying.

II.

Eight years had passed since I was ordered "six glasses a day of the best port wine." Temperance principles had deepened in my own mind, and extended both in the medical profession and in the world at large. Some years of work in a suburban charge, with occasional periods of overstrain, had brought back headache and lassitude. Extreme sensibility to pain, readiness to take cold, and at last a painful attack of anæmic rheumatism, drove me to seek what I was assured was first rate advice, in London. The doctor was a clever little man, with no great "qualifications," but with money enough to buy a lucrative West-End practice, and with quite a reputation among his friends on the subject of "rheumatics." After a brief examination, he evidently saw what was the matter. He began by describing my symptoms one after another, as fast as I could assent. (I have since suspected that he was "coached" by the friends who recommended him.) Then he carefully noted down particulars, and pointed triumphantly to my blue ribbon, and said—

"There is the cause of all your trouble."

"But it unfortunately is not new. I have been practically an abstainer all my life."

This I thought was a regular poser, but he was quite ready for me.

"Well, I don't care. I've seen a good dozen of clergymen in the last few weeks who have had to take off the blue ribbon from exactly the same cause. Abstinence may suit some men, but for you a stimulant is absolutely necessary."

"Dr. S——, whose name of course you know, said that years ago, and ordered me six glasses of port a day; but his equally distinguished neighbour, Dr. Reynolds, whom he himself recommended for a second opinion, actually prescribed abstinence."

"Well, there are differences of opinion, of course."

This was a concession; so I pressed my advantage, and added some more recent experience, as briefly as I could.

"Two years ago my own doctor at home was ill, and I saw his partner, who ordered me whisky in milk twice a day. As I woke two successive mornings with unusual headache, I had my doubts as to the whisky much strengthened, and as I happened to meet my own doctor out again, I told him, and he recommended the milk without the whisky."

This brought a most business-like proposal.

"I only want you to take an ounce a day for a fortnight; a tablespoonful after dinner, and the same after supper, of the best Scotch whisky."

It does not want much medical knowledge to see that here was an entirely new prescription, a definite short period of the use of alcohol as a drug, instead of its constant use in diet. So I took the whisky. But no one in the house knew it but myself. I took it as a medicine after meals, in a medicine glass, out of a poison bottle. I was four weeks under that doctor's care. The drugs (whisky, of course, included) did their work rapidly. There was sulphate of quinine, citric acid, and syrup of lemon, to be mixed with bicarbonate of potash, carbonate of ammonia, and bromide of ammonia. In a week I went back, and heard such endless praises of whisky that I quite felt for the other less fortunate medicines. So the second week, to keep the balance true, I tried the other drugs without the whisky. This time the improvement was pronounced still more rapid. The whisky was again praised for it all; but I kept my countenance and my secret, and let the doctor run on. He gave me a

tonic of strychnia, phosphoric acid, calamba, and a little belladonna. But the whisky was not ordered in so many words, patients being, I suppose, in the habit of taking it for granted that *that* prescription always runs on. Again I returned and had my tonic altered, heard the praises of whisky and kept silence. Next week I was dismissed cured, with—

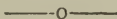
“Now you see that there is really a necessity for you to take whisky. You see what good it does you. Take my advice, now, and use it regularly.”

I always have a feeling of half

regret that I did not tell him then. But I thought it would be no good. I fear he may still be going on taking off blue ribbons, and quoting my case with great emphasis.

If we are to win the doctors who still advocate whisky as a part of generous diet, we must make it clear that the prescription of alcohol is not always the road to a patient's confidence. If my experiences help any brother to help the doctors in this direction, the record of them will be more than justified.

D. M.



A MEDICAL PROFESSOR ON ALCOHOL.

In a lecture under the auspices of the University Temperance Society, delivered in the Humanity Class-room, St. Andrews, in January last, Professor M'Intosh treated the subject from the standpoint of a student, supplemented and corrected by the experience of more than a quarter of a century's insight into the working of the laws of dietetics, and the influences of regular habits on the life of the individual and the welfare of the community. Having pictured the initiation of the young student into college life, he said that he might be tempted to acquire the habit of consuming beer or drinks containing a large amount of alcohol. If that habit only resulted in an occasional harmless convivial meeting, no exception might be taken to it, but it was well known that such habits in certain constitutions took root and developed in a remarkable way, so that, sooner or later, they were apt to prove detrimental to the health and prospects of those who practised them. The custom of consuming liquids containing alcohol was fraught with no beneficial result physiologically to the individual, whilst in the case of the student it was prejudicial to that clearness of intellect and to that tenacity of application which were so essential for attaining a high position at college and to paving the way to future success. The notion, devoid of any

scientific basis, still lingered in the mind of many besides students that beer and even alcohol were required in the dietary of an ordinary healthy person. They might be imagined to be necessary in the same way as the fancied invalid doses himself with bitters and stomachics to improve his digestion, whilst he loads his gastric organ with too much, and too often indigestible food. It was true that small quantities of beer or alcohol taken upon rare occasions might exhibit no appreciable effect, but neither did small doses of more dangerous drugs. The brewer's man who habitually imbibed beer was a conspicuous example of its deleterious influence. A slight wound or abrasion, for instance, on any part of his body took on an unhealthy action, and he perhaps succumbed to an injury which would have been comparatively trifling in a man who did not imbibe beer. There was no part of the organism in this connection which became sooner affected than the brain and nervous system. Professor M'Intosh then treated of the effects of alcohol proper, and said that all recent investigations by scientific men proved that it was essentially deleterious. Moreover, that it was a substance that would kill quickly if taken in large quantity. He dealt, however, chiefly with the imbibition of smaller quantities taken more or less habitually, and he referred to the

statistics of public hospitals, infirmaries, and asylums for the insane as showing the actual number of cases of delirium tremens and other conspicuous effects of alcohol. There were many other cases which were known to depend in a large measure on the use of such liquor, although not included in the former category. Moreover, a large percentage of the diseases treated in private life, and much of the physical discomfort, mental degeneration, and moral obliquity in our midst was traceable to the same cause. Alcohol was in no sense a food, and the student who wished to achieve solid success at college should be as temperate as it was possible to be with regard to alcoholic drink. Stu-

dent-life was a constant gladiatorship, in which the clearest intellect, the closest application to work, and the soundest physique in the end carried off the palm. Whilst the student who abstained from alcoholic drinks would be able to sit up till early morning at his studies, turn in for a few hours, and be fresh in the field at nine or ten next day, the student who consumed the liquors mentioned, or who was not strictly temperate as regards smoking and other habits, would present an indifferent appearance for work during the still hours of the night, and would not be refreshed by a similar amount of rest, and would be less able to grapple clearly and vigorously with the task of the morning.



THE LONDON TEMPERANCE HOSPITAL.

THE in-patients received during the official year were 624, and as 48 were under treatment May 1st, 1885, the total number treated was 672, the number under treatment May 1st, 1886, being 63. The deaths were 41, giving a rate of mortality of 6·7 per cent. From the opening of the hospital October 6th, 1873, to April 30th, 1886 (twelve years and seven months), the in-patients were 3,486, of whom 1,968 were cured, 1,272 were relieved, and 183 died, a percentage of 5·2.

The out-patient department has proved, as formerly, a useful branch of the Hospital practice. The number of out-patients receiving advice and medicine during the year ending April 30th was 3,252, raising the total number from the commencement to 22,790. The patients are encouraged to pay a small sum for their medicines, but in cases where this would be a hardship it is not required. As in most cases an out-patient makes several visits, the number of attendances far exceeds the number of out-patients above reported.

The increasing number of applications at the Hospital for the treatment of accidents and other cases of emergency has rendered it necessary to open a "Casualty Department" for

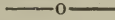
their special reception. This is now in good working order, and is likely to prove a valuable addition to the efficiency of the Hospital.

The Board of Management has pleasure in reporting that progress has been made in the preparation of a pamphlet furnishing notes of the Hospital practice, which it is believed will favourably impress the medical profession, and encourage those who are impartially watching our work, and are wishful for its adoption. It is to an imitation and extension of our special treatment that we hope for our ultimate success. The members of the medical profession are not insensible to the evidence afforded by the experience of our Hospital concerning a question of profound interest to the healing art, and the welfare of the people at large. Undeniable and numerous signs are testifying to the diminished faith of intelligent practitioners in the supposed therapeutic virtue of alcohol. The average amount of alcohol used in hospitals and infirmaries has decreased, and is still decreasing, with evident advantage to the patients. Even in those special diseases for the cure of which alcohol was believed to be almost indispensable, such as acute pneumonia, ty-

phoid fever, small-pox, &c., it is now found by those who are bold enough to dispense with its use that results are obtainable tending to disprove the assumption, not only of its necessity, but of its value. The existence and work of our Hospital is a great aid and encouragement to all such experiments, and we therefore have good reason for the request we very earnestly prefer, that this Institution should receive the liberal support of all who desire that medical science shall make new conquests over those

physical ills and sufferings to which humanity is subject by hereditary tendency, and by its natural exposure to accident and disease.—*13th Annual Report, 1885-6.*

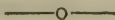
In the report of the medical and surgical staff, signed by Dr. James Edmunds, Dr. Robert J. Lee, and Mr. A. Pearce Gould, it is stated that "alcohol has been given in one case during the year. In no other instance has it been deemed advisable to prescribe it."



ALCOHOLISM IN FRANCE.

OWING to the ravages that are being committed by alcoholism in this country, the authorities have felt it high time to interfere, and to adopt such measures as will prevent the physical and moral degradation to which the population is being reduced by the excessive abuse of spirits, and especially spirits of an inferior quality. The subject has been brought before the Senate, which ordered a commission to investigate the matter. The reporter suggested that whatever other measures be taken, legislative or otherwise, they would be of little or no avail unless the rectification of the alcohols delivered for consumption be exacted. Among the other measures proposed by the commission to reduce alcoholism to a minimum may be mentioned increase of the duty on alcohol, the preventage of "vinage," or the addition of alcohol to wines, and the reduction of the number of "cabarets" or wine-shops. As regards vinage, M. Girard, Director of the Municipal Laboratory of Paris, who was consulted on the subject, stated that experiments performed by him showed that the addition of alcohol to wine destroyed the properties of the latter in precipitating a portion of the tartaric acid and extractive matters it contains. Dr. Dujardin-Beaumetz, in the name of the Council of Hygiene, declared that the process of vinage

profoundly altered the wine without in any way improving it, except for the purpose of preservation, which is of advantage only to the wine merchant. Dr. Brouardel, the President of the Society of Hygiene, made a statement to the same effect, and added that vinage was a source of great danger to the public health. Although this process was approved of by the Academy of Medicine in 1870, it is presumed that if it were now consulted it would express a different opinion, as the study of the physical and chemical constitution of alcohols, as well as of their toxic properties, has made considerable progress since that time. In connection with this subject, I may note that the Academy of Sciences has been furnished with some startling facts respecting the production of the liquid commonly sold as cheap brandy. Out of more than 50,000,000 gallons of alcohol distilled annually, not quite 500,000 gallons, according to M. Girard, were distilled from the grape. The greater portion of spirit is obtained from grain, which, if sufficiently rectified, is not unwholesome; but, this being very rarely done, the spirit is noxious. Alcohol is also distilled from apples, pears, potatoes, and beet-root, all of which contain poisons of various kinds.—*Paris Correspondence of the Lancet, May 29.*



British Medical Temperance Association.

—o—
President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every Registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION. Not less than Five Shillings.

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Dr. GORDON, Croydon.

Dr. HANSARD, Sydney, N.S.W.

Dr. HODGSON, Chipping Warden.

Dr. LAWTON, Poole.

Dr. O'BRYEN, London, W.

Dr. O'FLAHERTY, Walker-on-Tyne.

M. TOWNSEND, Esq., London, W.

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J. J. MOONLY, Esq., Owens College, Manchester.

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Honorary Secretary and Treasurer.

Dr. YOUNG, 25, Manor Place, Edinburgh.

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S. BEATTIE, Esq., Edinburgh.

T. W. HAY, Esq., Glasgow.

H. JONES, Esq., Glasgow.

D. MACLACHLAN, Esq., Edinburgh.

E. W. RAHN, Esq., Edinburgh.

J. C. ROCHA, Esq., Edinburgh.

J. C. THOMPSON, Esq., Edinburgh.

F. S. ZAYTOON, Esq., Edinburgh.

IRISH BRANCH.

Honorary Secretary and Treasurer.

Dr. MACDOWEL COSGRAVE, 24, Gardiner's Place, Dublin.

NEW MEMBERS.

Dr. BUTTER, Limerick.

Dr. MACKENZIE, Belfast.

NEW ASSOCIATES.

R. A. C. BURNE, Esq., Dublin.

V. A. JONES, Esq., Dublin.

H. N. H. JOYNT, Esq., Dublin.

W. J. THOMPSON, Esq., Dublin.

NORTH OF IRELAND BRANCH.

President.

Brigade-Surgeon MCFARLAND, Belfast.

Vice-Presidents.

Dr. BRICE SMYTH, Belfast.

Dr. McMURTRY, Belfast.

COUNCIL.

Dr. J. M. BARNETT, Belfast.

Dr. LINDSAY, Belfast.

Dr. SINCLAIR, Belfast.

Dr. BYERS, Belfast.

Dr. DICOLLY, Belfast.

Dr. PURDON, Belfast.

Dr. ELLIOTT, Londonderry.

Honorary Secretary and Treasurer.

W. G. MACKENZIE, Esq., Richmond Terrace, Belfast.

THE ANNUAL MEETING.

THE annual general meeting of the Association was held at the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Friday, 28th May. Dr. B. W. Richardson presided.

Dr. J. JAMES RIDGE, honorary secretary, read the minutes of meetings held by the Society during the past year, and presented the following

REPORT.

The Council is glad to be again able to report a decided increase in the numbers and influence of the Association. There are now altogether 341 members and 56 associates, a net increase of 32 and 17 respectively. England and Wales furnish 236 members and 12 associates; Scotland, 49 members and 12 associates; and Ireland, 50 members and 32 associates; and 6 members reside beyond the seas in Egypt, Natal, Queensland, Sydney, New Zealand, and Trinidad.

The Scottish Branch of the Association, which was formed just a year ago, has been quite as successful as the older Irish Branch. Under the presidency of Professor McKendrick, of Glasgow, and with the help of its able and energetic Secretary, Dr. P. A. Young, we confidently expect a still greater advance among the practitioners and students of North Britain. The Executive of the Irish Branch have been endeavouring to extend the Association in the North of Ireland, and have come to the conclusion that this can best be done by the formation of a separate branch having its head quarters in Belfast. Your Council have cordially agreed to this, and the abstaining doctors there have taken up the matter warmly, and have already organised a North of Ireland Branch, of which Dr. Mackenzie is the Honorary Secretary. We are confident that this extension will be of great value.

The deaths of eight members and two associates have occurred or been reported during the year, namely, Dr. Chadwick, of Manchester; Dr. Fitzsimons, of York; Dr. Knox, of Clapham, Lancaster; Dr. Laidlaw, of

Birkenhead; Dr. Megarry, of Wandsworth; W. Pearce, Esq., of Plymouth; Dr. Gilchrist, of Dumfries; Dr. McBride, of Gilford, Co. Down; and Messrs. Maclean, of Edinburgh, and O'Sullivan, of Dublin.

Three General Meetings of the Association have been held during the year, attended as usual, by visitors also. At the first of these our President, Dr. B. W. Richardson, made some observations on Alcoholic Paralysis, and Dr. C. R. Drysdale read a paper entitled "A Medical Reply to Lord Bramwell's pamphlet on Drink." At the next meeting in December, Dr. Ridge read notes of a case of Cholecystectomy followed by profound collapse, and recovery without alcohol; and Dr. Norman Kerr read a paper on the Fungi of Alcoholic Fermentation. At the February meeting, Dr. Norman Kerr read a communication on the results of a second year's operations at the Dalrymple Home for Inebriates; and Dr. Drysdale read a paper on the use of Alcohol in Hospitals. After discussion, the following resolution was carried: That this meeting desires to record its emphatic protest against the inclusion in hospital ordinary dietaries of any form of alcoholic liquor, the indiscriminate supply of which is dangerous to reclaimed drunkards, gives rise to an erroneous view of the value of alcohol as a strengthening agent, and is a wasteful expenditure of charitable funds.

The decision of the judges respecting the essays sent in competition for the One Hundred Guinea Prize has been given since the last Annual Meeting in favour of Mr. H. A. W. Coryn, of Charing Cross Hospital, himself an abstainer, and already an Associate. The essay was unanimously approved as being the best, and as evincing a high degree of merit. It has since been published. The thanks of the Council and of the Association are due to the judges for their laborious work, and specially to the Rt. Rev. the Lord Bishop of London, and the ex-Attorney-General, Sir Richard Webster, who, in the midst of their multi-

farious duties, spared so much time to this work.

It is a source of great satisfaction to us who have, through deep conviction, openly declared our belief in the advantages of total abstinence, to find that the investigations of scientific men are strengthening our position, and that the current of opinion clearly indicates the spread of the conviction that we are right. The action of an

Dr.	£	s.	d.
May, 1885. To Balance in hand	12	1	10
„ Subscriptions .	53	4	4
„ Balance from			
Prize Essay Fund	0	15	0
	£66	1	2

increasing number of Assurance Societies who recognise the superior longevity and freedom from accident of total abstainers; and the spread of total abstinence in the army, navy, and civil population is a strong manifestation of this. The Council therefore regards the outlook as most hopeful.

Dr. THOMAS MORTON, treasurer, submitted the balance sheet as follows:—

Cr.	£	s.	d.
By <i>Medical Temperance Journals</i>	32	2	6
„ Printing and Stationery .	8	18	6
„ Advertisements	4	2	0
„ Stamps, Post Cards, and			
Wrappers	6	17	6
„ Hire of Rooms, and Attend-			
ance	8	14	0
„ Medical Directory	0	10	6
„ Balance in hand	4	16	2
	£66	1	2

Examined, compared with Vouchers, and found correct,

May 28, 1886.

THOMAS BARLOW, M.D., } *Auditors.*
W. J. CORYN,

On the motion of Dr. RIDGE, seconded by Dr. NORMAN KERR, the report was unanimously adopted; as was also the treasurer's statement.

The officers having been re-elected, and a slight alteration in one of the rules agreed to, a hearty vote of thanks was accorded to Dr. Richardson and Dr. Ridge for their services as president and hon. sec. respectively.

Dr. RIDGE then read a paper entitled, "The Aims and Claims of the British Medical Temperance Association," which is given in full elsewhere.

Dr. KERR, in proposing a vote of thanks to Dr. Ridge for his interesting paper, referred to the great difficulties that were in the way of medical men openly avowing themselves to be total abstainers. They could, therefore, see why, in a certain measure, total abstinence principles had made comparatively little progress among the profession. There were, however, he believed, nearly 800 members of the medical profession in the United Kingdom who were total abstainers. What they had to do now, following

the line that Dr. Ridge had thrown out, was to endeavour to get as many as possible of those who remained to join their ranks. Their progress in the future would depend very much upon accurate teaching; it behoved them, therefore, to be exceedingly careful as to what they should teach. There could be no doubt whatever that the utterances of a medical man—especially in reference to the use of alcohol—were looked to far more than those of other people. In a popular temperance periodical yesterday he read a statement—not, however, he was glad to say, by a medical man—it was an address by a lady, who said that alcohol was good neither as food nor as medicine, and she remarked that science had proved this. Now, to his (Dr. Kerr's) mind, science has proved nothing of the kind. It was one of the most extraordinary assertions that he had ever read, and one that he did not think the most thorough member of this Association would agree to. If they did, the result would be that they

would only weaken their position. He thought they were on a far sounder basis if they took the general line that intoxicating liquors were dangerous articles, because they had a certain narcotic tendency. Whether the highest state of health was or was not compatible with a very limited dose was a matter of no consequence; the fact remained that the general use of intoxicating liquors was dangerous—as dangerous to the reason and intelligence as to the muscles and the body generally; therefore the wisest and most philosophical course to pursue was to totally abstain from their ordinary use. But whatever they averred as their creed in the matter of temperance, let them see that they followed it out to thorough consistency by excluding it from their own persons, and next to that from their houses altogether.

Dr. MOIR seconded the vote of thanks, and said that while they could not compel people to become teetotalers, they might all endeavour to convince them, and, as medical men, they had a specially powerful influence in this respect.

Dr. PARAMORE corroborated the statement as to the disinclination of many men to openly avow themselves total abstainers. If they wanted to do anything to advance the temperance movement, the great thing for them to do was to live in as attractive and agreeable a way as they possibly could. A medical man said to him, "The reason I do not go in for total abstinence is because I hate teetotalers; they are a miserable lot." They must try and remove that bad impression by following the good example of their president.

Dr. LORD said that they must all feel greatly indebted to Dr. Ridge for his paper, bristling as it was with interesting points for future study and consideration. With reference to the remarks of Dr. Kerr, he could not join issue with him in his condemnation of the opinions expressed by a lady in the temperance paper referred to. As a father of a family, he did not admit intoxicating liquors into his house for his family; he, however, admitted it

for visitors. But while providing it for his visitors he always tried to say something that would dissuade them from taking it; because he himself was a living example of a doctor who asserted that alcohol had no place whatever either as physic or food. And he took his stand on this point—they had a temperance hospital where disease was being cured every day without its use; its statistics were a conclusive proof, and could not be gainsaid. For eight years he had never prescribed alcohol, although he had sometimes assented to it when desired by a patient. Referring to the difficulties of medical men openly avowing themselves total abstainers, he believed he could do more good as a secret teetotaler amongst his patients, because his advice was now taken at once, whereas if they knew he was a teetotaler they would consider it prejudiced advice, and would take no notice of it. He hoped, however, the time would soon come when he could honestly and openly avow it to the world.

Dr. MORTON said the object of this Association was to press temperance upon the public through the medical profession, and it was not their numbers but their weight which told.

The CHAIRMAN said the best thing for those who abstained was for them to say so. He considered there were two sides to this question, and the side of perfect sincerity in regard to the matter grew more and more important every day. There was not the slightest doubt that many did lose a great deal by declaring themselves teetotalers. It was so in his own case at first, but things were changing now. He doubted whether there was any physician in London who was consulted more by publicans than himself. They were so struck with the fact that when they sent an insurance proposal up to London, it went back with three years of short life attached to it because they were publicans, that they came to him, as a total abstainer, and asked his opinion. As regarded the consistency of their recommending alcohol, there was no inconsistency at

all if they would look at it as a medicine. He found no difficulty in prescribing alcohol. He did it only yesterday for a case of spasm, and he believed the prescription answered very well. Alcohol, however, should never be prescribed in any form except as alcohol—not in the form of brandy, gin, rum, or wine. He agreed with the remarks of a previous speaker, that they should endeavour to exert a greater influence in social life. They must try to get rid of the aspersion that they were a dull and heavy class of men, who thought of nothing but asceticism, and everything that was calculated to make life unhappy. He would like to see the various social clubs and members of the theatrical

profession more imbued with the principle of total abstinence.

The vote of thanks was then unanimously passed.

Dr. RIDGE, in reply, returned thanks, and said his conviction was that ultimately there would be no pecuniary loss to those who declared themselves abstainers. There might be temporary loss, but they had to look at things as they would appear in the future rather than as they concerned the present. They had at any rate the feeling that they were making the path easier to those who would follow, and that should be a greater satisfaction than any mere monetary gain.

The proceedings were then brought to a close.

ANNUAL MEETING OF THE IRISH BRANCH.

ON Tuesday, 8th June, the second Annual Meeting of the Irish branch of this Association was held in the Boardroom of the College of Surgeons, Dublin, Deputy Surgeon-General F. L. G. Gunn presided. Amongst those present were—Dr. Young, Dr. Starkey, Dr. Boyce, Dr. M'Dowel Cosgrave, Dr. Moffatt, Dr. Delahoyd, Dr. Draffin, (Ledwidge School), Mr. Jas. Searson, Surgeon Fry, and Mr. John Arthur.

Dr. M'DOWEL COSGRAVE read the annual report, which stated that the number of members of the Association was fifty.

The PRESIDENT said the Irish branch of the Association was being worked in a way that put the English branch to shame. He believed that as science progressed thoughtful men would feel it to be their duty to become members of the Association. Others, again, not disposed to regard science, preferred the teaching of the Scriptures; but the teaching of both science and the Scriptures was the same on the subject. The merits attributed to alcohol were entirely fallacious. There was great uncertainty as to the alcoholic strength of the decoctions sold as wine, and consequently a difficulty in prescribing alcohol with certainty. The best grapes contained 17 per cent. of alcohol, whereas the alcoholic liquors sold often contained 50 per

cent. He (the president) had recently visited Belfast, and believed a large branch of the Association would be formed there.

Mr. JAMES SEARSON moved the adoption of the report. It might appear that they had not made much way amongst the 1,000 medical students in Dublin, but from his knowledge of those of them amongst whom he had striven to promote total abstinence principles he hoped for much good.

The Rev. Dr. MOFFATT, in seconding the motion, said he was familiar with army hospitals, and in some of them a bottle of brandy was not now used from one year's end to another. Still he remembered a very bad case of typhoid pneumonia in which after having resorted to every stimulant used in medical treatment he had to resort to port wine, and the result was simply magical.

The report was adopted.

Dr. DELAHOYD moved:—"That this meeting hails with pleasure the success of the president's visit to Belfast, and welcomes the proposed formation of the North of Ireland Branch."

The resolution was seconded by Dr. BOYCE, and supported by Dr. FOY, and carried.

The proceedings terminated with a vote of thanks to the president.

Society for the Study and Cure of Inebriety.

ANNUAL MEETING.

THE Annual Meeting of this Association was held on Tuesday, 6th April, in the Rooms of the Medical Society of London, the President, Dr. Norman Kerr, M.D., in the chair. There was an influential attendance.

After the formal business had been transacted, the President delivered an address upon the subject of "Improved Legislation for Habitual Inebriates." He believed that the Habitual Drunkards Act of 1879, imperfect as it was, had not been without value; but thought that a permanent measure, with important amendments, ought to be enacted. "The several impediments to the useful working of the Act ought to be removed as far as possible. Sometimes, when in a penitent mood, the habitual drunkard, alive to his diseased condition which renders him almost powerless to resist the fascination of the alcoholic crave, though from his very soul he hates his enslaver, is willing to sign away his liberty, and to apply to be admitted to a licensed retreat. If two justices of the peace can be found together ready to attest his declaration, while he is in this healthful and hopeful state of mind, well and good; he signs and enters. But if, as has frequently happened, two justices cannot be found together for some time and after many journeys, the inebriate becomes sick of the pursuit; and, vainly (for such is the character of his disease) fancying that his returning physical strength in bringing *pari passu* a greater power of self-control, declines to go on with the application. This difficulty would be most effectually met by doing away altogether with the attestation by justices, in the case of the habitual inebriate voluntarily applying for admission into a retreat. The procedure followed in the United States of America, consisting in a simple contract with the licensee of a retreat, has been found efficient and safe. No abuse of such an easy mode of entrance and surrender of liberty

could possibly occur, were the liberty of the subject safeguarded (1) by a report of each admission under the Act to the Home Secretary within forty-eight hours, to be followed by a visitation of a justice or inspector within a month, or shorter period; (2) by power of appeal on the part of the patient to a local justice, to a judge, or to the Home Secretary or inspector; (3) by frequent visitation by an inspector or other official. It should be borne in mind that a home for inebriates is not a prison, and any patient determined on escaping cannot well be prevented from leaving. The treatment of inebriates at genuine homes is based, not on physical force, but on the moral influence of the combined medical and moral discipline and remedial measures."

The paper by Dr. Jamieson B. Hurry, M.A., M.D., of Reading, on "Uncontrollable Inebriety," was read by the Secretary, Mr. C. H. Bishop. The paper was limited to a discussion of those cases in which inebriety was a disease, and had more or less well-defined symptoms. By uncontrollable inebriety he meant that form of mental disorder which called for treatment like similar maladies. The craving came on in the form of a paroxysm, which ran a more or less cyclical course, each paroxysm having a premonitory stage, reminding one of that of other diseases. Friends of the inebriate would notice depression, listlessness, and dyspeptic symptoms such as nausea and even vomiting. Then succeeded an uncontrollable craving for stimulants, regardless of self-respect and every other consideration. He would obtain drink under any circumstances, and after a period of helpless inebriety reason and a sense of shame suddenly revived, and the drunkard resumed his ordinary occupation with every sign of contrition and wish for amendment. The drunkard seemed unable to resist this paroxysm. As to the causes, they might be referred

to heredity, to insanity, mental worry and trouble, heart-disease and moderate drinking for a length of time. The recoveries were not numerous, and most dipsomaniacs live unsanitary lives. The writer concluded by dwelling upon the duty of the Legislature in relation to the inebriate.

The PRESIDENT proposed a vote of thanks to Dr. Hurry, which was seconded by Mr. Gray, and agreed to.

Mr. ROBERT LOCKHART, Edinburgh, thoroughly agreed that drunkenness was often a disease, and he could not understand how any one could doubt this. Mr. Lockhart cited a case in point, a converted inebriate who after years of abstinence fell. In the Brownsland Home, near Peebles, six miles from any public-house, they treated fourteen working women for seven shillings a-week, supplemented by subscriptions, and had been enabled to treat many bad cases successfully. The body and the soul must both be cared for. All managers of Homes for inebriates should be abstainers and Christians.

Mr. F. J. GRAY, Old Park Hall, Walsall, Staffordshire, felt greatly the need of the legislation proposed by the President, and was glad to hear the serious question of the choice of a genuine Home brought forward. He had known some shocking cases of conniving at drinking by patients. Abstinence was essential. The appearance before justices hindered many inebriates from applying for admission.

Dr. JOSEPH SMITH quite agreed that it was absolutely necessary to improve the law. Total abstinence was a *sine quâ non*. He could not understand how there could be any objections to patients under the Act and private patients being treated in one Home. It was of importance to avoid Homes which were not honestly conducted on genuine abstinence principles.

Mr. R. W. BRANTHWAITE, Dalrymple Home, Rickmansworth, had found some of the best cases had entered under the Act. The delay in finding justices was often fatal to the best interests of the escaped patient. In one case thirty-six hours' delay and two nights' in the police cells were the result of the present state of the law. Improved legislation was much to be desired.

Dr. WILLIAMS thought the influence of religion was a most important element in treatment. Better legislation was needed.

Mr. W. A. MOUNT narrated the case of a reformed inebriate at Bermuda who fell through being tempted by liquor offered at a wedding breakfast by the host, a well-known total abstainer. The poor fellow was ultimately dismissed from Her Majesty's service.

Mr. HOLTHOUSE pointed out the great difficulty of determining which were genuine Homes.

On the motion of Dr. BRIDGWATER, seconded by Dr. WILLIAMS, a vote of thanks was awarded to the President.



THE SANITARY RELATIONS OF INEBRIETY.

A QUARTERLY general meeting of the society was held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Tuesday, 1st June; the President, Dr. Norman Kerr, in the chair.

The PRESIDENT announced that it was the intention of the society to hold a Congress on Inebriety in London, in July, of an international character.

Mr. C. H. BISHOP, hon. secretary, read a paper, by Dr. T. D. Crothers,

Hartford, Conn., U.S.A., on "Sanitary Relations of Inebriety." The paper stated that the intellectual and physical vigour of a nation depended largely on its vitality. The mortality and disease arising from inebriety laid the burden on the remaining population heavier by the withdrawal of so much productive power. Inebriety was so invidious and widespread that its sanitary aspect was of the highest importance. Its influence on the public health was evidenced markedly

in mortality. At least 60,000 premature deaths were caused every year by it in the United States. Probably the true death-rate from excess in strong drink was much higher, even nearly double that alarming figure. Compared with the minimum estimate, the mortality from cholera and yellow fever sank into insignificance. The principal period of life when persons were cut off by inebriety was between the ages of twenty and forty, when the greatest value is to be attached to activity and strength. Death at this period is a withdrawal of so much energy and life force, a direct loss in the expenditure necessary to prepare for maturity. High rates of mortality, breaking up national growth by destroying its working force, have many illustrations in history. Over 50 per cent. of all the sickness results directly or indirectly from inebriety. Nervous diseases, paralysis, epilepsy, and apoplexy are largely fed from this source. Besides, it lessens the conserving and resisting powers, so that disease is less easily withstood. Fevers prevail more among inebriates, and the mortality among them is greater than among the rest of the community. Then much of the disease from the unsanitary condition of dwellings is caused by the want of means to secure a good house through extravagant expenditure in liquor. The actual national loss through inebriety can never be computed in figures. This disease, with all its devastations, can be checked by a better sanitary knowledge, by a clearer comprehension, a wider range of scientific truth. The crimes which flow from inebriety exceed that from all other causes. In Canada it is estimated at 98 per cent., in New York City at 80 per cent., and in other places from 50 per cent. upwards. This alone, with the disturbances to society, the destitution and pauperism, are appalling. Inebriety has been called a relic of barbarism surviving in the midst of our civilisation, but it is really our civilisation which is barbaric. With our boasted progress this affection remains, and humanity awaits a new era of reform and relief.

Inebriety is felt on the public health following political, social, or financial revolution. For example, the late "Black Friday" will long be remembered. Insane asylums are barometers in which we read the traces of the storms of inebriety. It springs from change, excitement, unhealthy surroundings, and is frequently an active cause of the very conditions from which it is recruited. Inebriety, in its effect on public health, is not limited to crime, disease, and poverty. There is the still more grave transmission of the alcoholic taint, of a diseased tendency to degradation, physical, moral, and mental. The children of inebriates are bound down by conditions of birth, from which their whole life is a struggle to escape. Idiocy and other physical defects are often the issue of alcoholism. The public health would be enormously improved if inebriety could be cured. It can—not by enthusiasm, except in a few cases, but by a careful scientific course of *treatment*; and it was urgently to be hoped that the physically diseased condition of the inebriate would be closely studied, with a view to thorough remedying of the fearful amount of inebriety which saddened our whole surroundings.

The PRESIDENT referred to the state of the law in regard to inebriates in the United States and the Colonies.

A MEMBER asked if there was anything to show that this legislation decreased drunkenness.

The PRESIDENT said that more trying climates and less pure drinks produced more intemperance than here; but drunkenness in the Colonies, though worse amongst males, was decidedly less amongst females. The proportion of female drunkenness in this country had risen enormously. The males seemed to be getting better and the females worse.

MR. J. H. RAPER, Canon LEIGH, and Dr. PARAMORE having spoken, Professor JUSTUS RADIUS, of Leipsic, read a paper on *Delirium Tremens*, setting forth the need for cutting off the supply of all intoxicating liquor. Reference was made to the good effects in many cases of the cold-water cure.

A short discussion followed.

Notes and Extracts.

—o—

THE EFFECTS OF BEVERAGES ON DIGESTION.—Some experiments on a large butcher's dog, with reference to the effects of sundry beverages on digestion, have, says *Nature*, been recently described in the *Archiv für Hygiene*, by Signor Ogata. The observations were made by means of a gastric fistula, which had become entirely healed. The subject of the experiments was supplied with a diet of horseflesh and ox-blood fibrin. The following conclusions, which, it is suggested, may not be strictly applicable to man, accustomed to the drinks named, were reached:—1. Water, water containing carbonic acid, tea and coffee in moderate amount, do not disturb digestion. 2. Beer, wine, and brandy retard digestion considerably at first, till absorbed; and in the case of beer, the extractive matters act as well as the alcohol. Thus beer retards digestion more than wine containing the same quantity of alcohol. 3. Sugar (cane and grape) retards digestion considerably. 4. Common salt accelerates it considerably.—*Medical Press*.

ON STRYCHNINE IN DIPSO MANIA.—In the *Vratch*, No. 10, 1886, p. 177, Dr. U. M. Popoff, of St. Petersburg, states that, guided by the works of Magnus Huss, Luton, Dujardin-Beaumez, and others, he employed nitrate of strychnine in two typical cases of dipsomania, and obtained strikingly successful therapeutic results. In one of the patients (a very gifted man of letters, aged forty), the alkaloid was administered under the skin, in the dose of 1-30th of a grain at first (during a drinking bout) daily, then every other day, then twice a week, &c. The patient ceased to ask for drink after the second injection: within the next two days, various morbid phenomena (headache, weakness, discomfort, &c.) disappeared. On subsequent occasions, a few injections of 1-60th or 1-45th of a grain of strychnine rapidly removed craving, anxiety, irritability, agoraphobia, and other premonitory

symptoms of a threatening dipsomaniac attack. The patient each time rapidly improved in all regards, and felt desire for work and society. In another patient, dipsomania disappeared under the internal administration of strychnine, the alkaloid being given for the first two weeks in doses of 1-30th of a grain, and for another two weeks in that of 1-60th, twice a day, in pills.—*British Medical Journal*, May 1.

ALCOHOL IN HOSPITALS.—The great discussion on the use of alcohol in hospitals, for patients or officials, has extended to the colonies, and grows warmer at home. We have no objection to offer to this state of matters, so long as it is conceded that medical men are to be the judges of the necessity for it in patients. Other officials of hospitals must come to such terms as the hospital authorities and they can agree on. We should approve of the offer of an equivalent in money to all nurses, servants, &c. But whether a patient is to have alcohol must be decided by the same authority that decides whether he is to have quinine or bromide of potassium. While stoutly maintaining this point, we would urge on all hospital physicians and surgeons, as we have on private practitioners, that the responsibility of the prescription is great. If a man who has been abstemious comes into a hospital and finds that a great medical authority orders him a pint of stout a day or a few ounces of brandy, he is very apt to continue the use of the same when he leaves the hospital, and to think he has medical sanction for it. *A fortiori*, this would be the case of a man who was not abstemious. There is one other reason, and it is a very strong one—viz., that the attention of a large section of the public is strongly directed to this question, and that the existence of something like harmony of practice is desirable. We are sure that English physicians will treat this subject as a grave one, from both a moral and scientific point of view.—*Lancet*, May 1.

THE
MEDICAL
TEMPERANCE
JOURNAL.



VOL. XVIII.—1887.



LONDON:
NATIONAL TEMPERANCE PUBLICATION DEPOT,
337, STRAND, W.C.

LONDON :
BARRETT, SONS AND CO., PRINTERS,
GREAT TOWER STREET, E.C.

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THE
MEDICAL TEMPERANCE JOURNAL,
October, 1886.

Original Contribution.

THE "TRUTH ABOUT ALCOHOL."

By ROBERT F. SINCLAIR, M.B., C.M., *Belfast*.

WHEN the history of the attitude adopted by our profession towards the administration of alcohol as a dietetic and medicinal agent comes to be written, as I trust it may, it will form a very instructive study, though, perhaps, not a very flattering one to our *amour propre*.

A consideration of such a chapter in our professional annals will, I think, demonstrate that whereas in the case of other drugs the evidence as to their effects, physiological and pathological, on the organism has been rigidly scrutinised, in regard to alcohol we have too readily accepted with unquestioning faith the most positive statements as to the beneficial effects of this agent—statements whose dogmatism is scarcely warranted by the extremely slender evidence brought forward in their support. In regard to this question we have, as it seems to me, been guided by what some writers term our instincts rather than by our intelligence.

The difference of opinion existing among writers on this question is very striking. Even the writer in the *British Medical Journal* a short time ago, on the "Truth about Alcohol," in an otherwise temperately written article, falls foul of those unlucky temperance platform orators for describing alcohol as a poison; but if this is an error, it is one for which the toxicologists, all of whom describe alcohol as a poison, are responsible.

The writer in the *Journal* truly says that all depends on our

definition of terms, and he proceeds to define poison as a substance "which in small quantity injures health or destroys life." Definitions are, however, notoriously open to criticism, and this one is, it appears to me, especially so. For instance, what is a "small quantity"? Is "small" not a relative term? Is it not the case that a dose, say of opium, that in one person would produce narcotism, in another person of different temperament, and perhaps accustomed to it, would produce no such effect? Again, arsenic is certainly a poison, and yet the Styrians are in the habit of taking doses that would be poisonous to those not so habituated to it; and so also of alcohol, a dose that on one accustomed to its use would have little apparent effect, would on another, not so accustomed, produce undoubted symptoms of narcotic poisoning.

The difference of opinion to which I have referred extends even to the dose. So that one writer concludes that half an ounce of alcohol is the utmost that can be taken without producing an injurious effect, while another writer, equally eminent, considers that three ounces and a half constitute a moderate quantity. This divergence of opinion extends also to the actions, physiological and pathological, produced by this agent, and thus we find one writer asserting that alcohol increases the heat of the body, while another states that it diminishes temperature.

Some hold that, as its combustion outside the body takes place with evolution of heat and production of carbonic acid and water, so this is also the result of its destruction or oxidation within the organism. Others, however, maintain that, while it is true that it is burnt off outside the body with production of carbonic acid and water, there is no evidence to show that this is what happens when alcohol is taken into the body. Some assert that it increases muscular activity and endurance, while others as confidently state that it directly enfeebles such activity, and diminishes the powers of endurance. It was, therefore, with sincere satisfaction that I saw that Sir William Roberts had taken up this question; and, judging from his previous valuable researches on Digestive Ferments, one expected some new light; but, although the results of his *actual experiments* are certainly satisfactory, his inferences deduced from those results are not so conclusive, but are, if I may say so, more instinctive than discriminating and intelligent conclusions.

Sir William tells us that, "it is necessary to distinguish sharply between the action of food accessories on the chemical processes of digestion and their action on muscular and glandular activity," and also that "all the food accessories were found to exercise a more or less retarding action on the speed of the chemi-

cal process." He also informs us that "Some, if not all of these, exercise a stimulating influence on the glands that secrete the digestive juices and on the muscular contractions of the stomach;" and he consequently concludes that "in the customary dietetic use of wines with meals, there is probably a double action; on the one hand, a stimulating action on the secretion of gastric juice and on the muscular contractions of the stomach; and, on the other hand, a retarding effect on the speed of the chemical process."

The really valuable portion of this investigation of Sir William's, in my estimation, the portion where one feels on the safe ground of fact, not inference, is that in which he finds by *actual experiment* that alcohol checks the speed of the chemical process of digestion. From what we know of the chemical action of alcohol in coagulating albumen, and from Sir William's previous researches where he has demonstrated the coagulating effect of alcohol on the products of digestion, the peptones, this retarding effect on the gastric processes is what we should have expected, but the additional proof furnished by Sir William is valuable corroboration of these facts. Further, it is probable, judging from what we know of the physiology of the submaxillary and pancreatic glands, that the gastric secretion, equally with the secretion of these glands, is the product of the molecular activity of the cells of the peptic glands, and since we know that one of the most important actions of alcohol is its property of diminishing the molecular activity of the working cells of the body, its action in checking the speed of the digestive process only corroborates our view as to the physiological effect of this agent.

But Sir William treads on much more unsafe ground when he informs us that alcohol exercises a stimulating effect on the muscular contractions of the stomach. This theory, if true, would upset what we have hitherto believed as to its effect on muscular activity. All experience goes to prove that, instead of a stimulating effect on muscle, alcohol exercises on it quite a contrary influence. The observations of Parkes, and the experiments of Dr. Richardson, prove this conclusively to my mind. Dr. Richardson found, as the result of experiment as to whether muscles under the influence of alcohol showed any increase of power, that after alcohol, the energy of the muscle, as measured by its lifting power, was diminished, even in the first stage when there was increased excitement of the system, and apparently increased strength. Further, we know that the muscular contractions of the stomach are at once excited by the ingestion of food, which immediately excites movements of the stomach, and, at the same time a flow of gastric juice. The muscular movements are at first feeble and slight, "but as digestion goes

on they become more and more vigorous,"* so that one would have to distinguish sharply between the movements natural to the stomach in ordinary process of digestion, and those movements due to the action of any drug.

Alcohol, certainly, in small doses, and well diluted, does cause secretion of gastric juice, but this secretion is more surely and much more healthily induced by the ingestion of food; and, as we know, dilute alkalis have an extremely powerful stimulating effect on this secretion, so that the swallowing of the alkaline saliva at once provokes a flow of gastric juice, which fact explains, as that keen observer Dr. Lauder Brunton has pointed out, why a person who begins a meal with no appetite often eats with zest after the first bite, and finishes with astonishment at the amount he has consumed. These facts being so—viz., that food at once promotes a flow of gastric juice, and at the same time sets the muscular contractions of the stomach in motion, what is the real use of alcohol in ordinary conditions of health, even where there is want of appetite, not dependent on disease, particularly as it tends to diminish the normal speed of digestion? Is not Dr. Lauder Brunton right when he concludes that "healthy stomachs, with ordinary food, do not require it"?

Most writers of any repute, indeed, except Sir William, are agreed that healthy people do their daily work, even extreme mental and physical work, best without a stimulant. But some think that in fatigued states of the body, as, for instance, when a man comes home tired and fagged out by a long day's work, so tired that he does not feel the slightest desire for food—that here, they consider, we have a case where alcohol is really beneficial; and certainly in such cases a glass of wine has a marvellous effect—the previously exhausted, irritable, and hungerless man, becomes animated, soothed in spirits, and, the secretions of gastric juice being excited, he experiences some desire for food. But at what a cost is this soothed feeling and this appetite procured! At a time when, as demonstrated by this feeling of exhaustion, the system imperatively demands rest, we administer an agent that soothes the feeling of fatigue by dulling and narcotising the nervous system. We stimulate a flow of gastric juice, that, owing to this very exhaustion, must necessarily be deficient in organic constituents and must have in consequence but feeble digestive power; and finally, the heart, which previously was flagging and beating feebly,—taking the rest, in fact, prescribed by nature,—is stimulated to beat more powerfully and quickly, and, therefore, still more to exhaust the reserve of nervous energy.

* Foster's "Text Book of Physiology."

This interference with the course of nature may be productive of little or no harm, if seldom occurring, but when, in such exhausted states, this agent is regularly used, it cannot but have an extremely injurious effect. Far better would it be for such men to take Dr. Beale's advice, based alike on good sense and sound physiology:—"If a man cannot eat his dinner without first swallowing a stimulant, he had better go without it. He might wait a few hours and then he would probably be able to take simple food without condiments or stimulants." It is not an imaginary danger that Dr. Lauder Brunton indicates, but one that can be endorsed by any unprejudiced medical man in practice. "If regularly used, even in small quantities, the stomach may become habituated to it, and refuse to respond to the stimulus of food alone." Of one thing we can be very certain, viz., that alcohol, when habitually taken, even in very small quantities, has the peculiar physiological property of creating a morbid craving for itself. But what do we think of the estimation of the value of any drug as a dietetic agent, that leaves out of consideration its effect on other organs besides the stomach?

What should we think of any conclusions drawn from the dietetic action, say, of digitalis, that left out of consideration its effect on the heart? And yet a distinguished writer has stated, and with grounds for his opinion, "I consider the stimulating action upon the heart to be one of the most important properties of alcohol." So that a consideration of the influence of alcohol on the system which does not take into account its effect on the heart, is not unlike a representation of Hamlet with the part of the Prince of Denmark left out. We find by Dr. Parkes' experiments that on a healthy man with only one fluid ounce of alcohol the heart beat 430 times more in the day, and with two fluid ounces it beat 1,872 times more. This extra excitement of the heart must injure that organ itself, because "a heart which is beating more quickly than usual wears itself sooner out than one which is acting slowly." Further, this more powerful and more rapid action of the heart, combined with the dilatation of the capillary system, caused by the paralysis of the vaso-motor nerves, produces an increased flow of blood to different organs of the body. Thus, when we take alcohol with food, at a time when we specially require, for the processes of digestion, freedom from excitement, and less rather than more blood to the brain, we produce by this agent a congestion of, or an increased flow of blood to, the brain, and we further increase the excitement by stimulating the heart. This general congestion and interference with function extends to the retina, Dr. Ridge having demonstrated that after very small doses of alcohol the sense of vision was decidedly impaired. The

same experimenter found that the sense of touch and the appreciation of weight were sensibly diminished after small doses of this agent. So that the following conclusions are fully warranted by facts:—"An agent that causes congestion of the brain cannot be employed many times without destroying the delicate organisation of the vascular structure of the brain; neither can it influence the other vascular organs in the same way without prejudice to their structure; neither can it destroy the function of the nerves, of the muscles, and of the organs of the senses, without prejudice to their functions." *

It has been very readily assumed that, because alcohol can be burnt or oxidised outside the body with evolution of heat and production of carbonic acid and water, and because, in small quantity, alcohol is destroyed within the system, therefore it very probably undergoes the same changes within the organism as it does outside, *i.e.*, imparts heat to the body, and produces in the process of combustion carbonic acid and water; so that one writer concludes, "In this sense alcohol is a food; for we must regard as food not only the building material but all the substances which by their combustion in its tissues afford warmth to the animal organism, and by so doing contribute towards the production of vital force, and keep up the powers of endurance." †

If the process of the production in the organism of heat and carbonic acid and water were as simple and easily understood as the results of the combustion of alcohol outside the body, the problems we have been considering would indeed be very easily explained. But "the tendency of all recent inquiries is to show that the body cannot be compared either as a whole, or in its parts, to a furnace, for the direct combustion of combustible food." ‡ Further, if alcohol were thus burnt off, or oxidised within the system, so as to "contribute towards the production of vital force and keep up the powers of endurance," we should expect to find the products of this combustion increased beyond what is normal, or at least equal to normal. But we find, on the contrary, that the direct tendency and effect is to diminish temperature, and that proportionately there is a decrease in the natural products of the combustion of the body. So that the carbonic acid exhaled is also diminished; and this result we would naturally expect from the action of alcohol in diminishing the molecular activity of the tissues, on the activity of which depends the production of heat and carbonic acid.

As to alcohol "keeping up the powers of endurance," the

* "Alcohol," by Dr. B. W. Richardson.

† Binz. Quain's "Dictionary of Medicine," article *Alcohol*.

‡ Foster: "Text Book of Physiology,"

observations of Parkes on the issue of a spirit ration in the Ashantee campaign point to its reviving and supporting effect as being exceedingly evanescent; and show that after a short extra exertion "the previous languor and sense of exhaustion not only return, but are sometimes more intense, and, if alcohol is again resorted to, its effects are now less satisfactory; its reviving power is usually not so marked, and its peculiar anæsthetic and narcotising influence can often be distinctly traced; the men feel heavy, dull, disinclined to march, and are less willing and cheerful." Similar testimony might be multiplied. But how anyone with such evidence before him can still believe that alcohol keeps up the powers of endurance is rather remarkable.

We are indeed, as Dr. Richardson truly says, landed on this basis of knowledge, "an agent that will burn and give forth heat and product of combustion outside the body, and which is obviously decomposed within the body, reduces the animal temperature and prevents the yield of so much product of combustion as is natural to the organic life." The attempt is made by Sir William Roberts to associate together the dietetic habits of a nation with their intellectual eminence, and to show that these dietetic customs are the result of "profound instincts which correspond to important wants of the human economy." Experience and history, however, lend no countenance whatever to this narrow view of life. It is true that good food is necessary to keep up the body in healthy condition, but that the intellect is best developed by any particular diet and food accessory is contrary to all known facts and experience.

A short study of Dr. Draper's account of the intellectual development of the Arabians in Spain, will soon dissipate any idea that confines the production of men of originality and genius to those nations that inhabit a particular part of this hemisphere and drink alcoholic liquors. Our own profession, in particular, owes a debt of gratitude to this abstaining nation of Arabs, for through their writings we derived our first knowledge of the Greek physicians. The Arabians subsequently fell, as a nation, but not even a wine merchant would venture to ascribe their descent to their abstinence from alcoholic liquors.

Lotze truly says:—"The attempt directly to derive higher mental development from better food finds absolutely no support in experience. Cold garrets in which often no other food than an insufficient quantity of bread was consumed, have witnessed the birth of more immortal thoughts than ever were fostered by the more luxurious repasts of the men of talent of these days, and the rising generation which has at last discovered in the application of phosphorus the road to an increase of intelligence, finds itself in possession of a store of knowledge accumulated by

many centuries, when as yet this means was unknown; a store hard to be surpassed with perceptible rapidity.* As to profound instincts influencing our dietetic customs, surely that is a higher instinct, because born of intelligence, that teaches athletes and prize fighters who wish to attain the highest physical development that they attain this object more certainly by abstaining altogether. It was a profounder instinct that guided Sir Andrew Clark when he concluded that "If I took two glasses of claret during the day I could not do my work. It would take away the acuteness of my perception, the keenness of my interest in my cases, bias my judgment, and altogether unfit me for doing the work I had to perform." This judgment emphasizes with singular clearness what I have endeavoured to show is the real effect, physical and mental, of this agent, even in what is called a moderate quantity.

In conclusion, in the words of one who has made this subject peculiarly his own, "If it be really a luxury for the heart to be lifted up by alcohol, for the blood to course more swiftly through the brain, for the thoughts to flow more vehemently, for words to come more fluently, for emotion to rise ecstatically, and for life to rush on beyond the pace set by nature, then those who enjoy the luxury must enjoy it, with the consequences."



Miscellaneous Communications.



ON ALCOHOLIC ASTHENIA OF THE HEART, AND ON THE USE OF ALCOHOL FOR FEEBLENESS OF THE CIRCULATION.†

By BENJAMIN WARD RICHARDSON, M.D., F.R.S.

CHAPTER I.

SUBJECTS OF ALCOHOLIC ASTHENIA.

OF the many universal errors respecting wine and other alcoholic liquors, which have shaped themselves into practical truths, the one which has the firmest hold is the belief that whenever the circulation of the blood is slow or imperfect, whenever the heart, as it is said, is wanting power, whenever the pulse is feeble, then an alcoholic stimulant is necessary. There are thousands of persons who, with the best desires for the freedom of the world from alcoholic vice, are of this opinion. They say that it is an opinion they cannot

avoid; they see the reasons for it too often to entertain any doubt about it; and very often the reasons are felt as well as seen.

There are many sayings and sentences which give character and weight to this opinion. "Wine is the milk of old age." "Give strong drink to him that is about to perish." "Wine prevents the circulation and the vital powers from *running down*." "A fillip is wanted for an emergency." "Wine maketh glad the heart of man." These and other sayings, bearing a similar meaning, are ever being uttered in support of the idea that wine and its allies are necessary for the support of the heart and the circulation.

* Microcosmus.

† From the *Asclepiad*. Longman & Co.

For my own part, I have no kind of prejudice on this matter. To me the phenomena of life present themselves so entirely in the experimental form, I can harbour no prejudice, can find no time to encourage one. I look for evidence, and having found that, in nature, am led by it. But this is not prejudice; it merely leads to difference of view from the common ideas, in that it rests on a little industry or research respecting natural phenomena beyond the ordinary custom of accepting things as they are, and of believing certain statements because they are declared in regular routine of daily conversation.

In this very plain and straight course of study of the question now before us I cannot do better than open by admitting that the views entertained and expressed by many on the value of wine and other drinks of the same class are the true and forcible expressions of those from whom we receive them. They are the natural utterances of those who state them, and he is no correct observer who entertains any doubt whatever on this point; it were, indeed, an insult to common belief to hold the doubt, expressed or concealed.

Patients have often come to me bearing, as they feel, the sting of such insult; as if, say they, they did not know their own sensations, or as if they were telling what they knew was not the truth. Some hard-and-fast abstaining friend or relative has heard what they have to tell, and has laughed at them, or has received their complaint as a tissue of nonsense, or has sneered at their want of resolution; but, "if the critic only knew what a glass of wine did; how it raised the languid powers, gave confidence to the wavering mind; did, for a time, make glad the heart; the critic would be less severe and more reasonable."

The statement of the line of argument thus supplied is the natural interpretation of all the difficulty. It explains that there are two classes of reasoners, each standing on his or her own ground, and deciding on his or her own conceptions. There are two sets of witnesses. Why?

The answer is as simple as it is direct and obvious. There are two sets of witnesses because there are two sets of people; one that has become habituated to alcohol, and one that has lost all habit for it, or has never acquired the habit. All through it is habit that is expressing itself; the alcoholic and the abstaining habit is speaking in turn, and each is, in its way, true and natural. The alcoholic habit speaks what it feels with sentiment of the keenest kind. The abstaining habit expresses its wonder that such sentiments can have any hold on any rational being; it wants no "milk of old age;" it does not call for strong drink "to save it from perishing," for it does not know the perishing sensation; it has no idea of what is meant by "running down" or "requiring a fillip," or the need of a stimulant to make "the heart glad." Alcohol plays, in fact, a part like that of a friend whom one person knows and trusts and another does not. The person to whom alcohol plays the friendly part speaks of its virtues and aids. The person for whom alcohol plays no part says he does not want such friendship. He can get on without it; he has no call for it.

A third and neutral observer listening to the debate of these disputants might consider that while the alcoholic habit was over-sentimental, and not peculiarly strong, the abstaining habit was hard and unreasonable, or at best over-reasonable. Why should the abstainer slight the aid which the kindly alcohol so kindly proffers? Is life so easy that no living being ever requires to be supplied with a support or a fillip? Is life so happy that no human being can ever want a something that will make the heart glad? Surely not! Why, then refuse the aid that the alcoholic habit so warmly praises?

In the answer to this question we have the whole difficulty of the contention concentrated, and the answer itself is by no means difficult. It is that there are before us in evidence two distinct classes of persons offering the evidence. The class that speaks

in favour of alcohol knows from its own experience the effects of the thing; the class that speaks against it knows nothing about its effects from its own experience, and therefore as readily doubts them as the other praises them. In plain words, alcohol in those who from experience praise it, has made out its own case to their satisfaction; and the more they praise it, and the more they declare for it as a necessity, the more loudly the thing itself is proclaiming itself through them. They have, by habit, acquired a second nature. Born with a common nature, they have, so it seems to them, enriched it with another. But those who from experience disclaim and denounce alcohol have retained the single common nature, and being thus constituted, and able to get, on, as they are, to their hearts' content, they look on the new or acquired nature derived from alcohol as a foolish nature, superimposed by a tyrant of folly upon his deceived.

To the physician more than to any other member of the community this view respecting alcohol is presented most strongly. To him those come who suspect, ever and anon, that their second or acquired nature is not quite so satisfactory an addition as it might be. They know that it leads them astray, handicaps them in the race of life, and makes itself too pronounced as a necessity. They try to tell what they know against it. They fail. They condemn it with an everlasting story of fears and apologies. The agent that has implanted the second nature speaks by and through them. Their tone of voice, their mode of argument, their half apologies as they dwell upon it, sing its praises, or descant on its occasional usefulness—all convey that they do not trust it.

The men of the abstaining habit come with no promptings from alcohol, and so they can offer no testimony from personal knowledge of its virtues. They judge by what they see in others, not by what they feel; and, as most people express what is most liked from what is most felt, they have nothing in praise of alcoholic feelings and alcoholic supremacy. On the

contrary, looking on at the effects of an agent which has to them no personal worth, and seeing the outside evil which it inflicts, they go wroth with it, and pronounce anathema upon it with unsparing voice and pen.

With the evidences of facts before him, the man who will observe for himself will soon read the reasons for the praises and the dispraises of wine and alcoholic drinks which, in these days, he must, of necessity, listen to; and the lesson of a medical and scientific kind which he must gather is, that when he hears the praises of wine he hears the influence of wine itself speaking through the person whom it has inspired. He is listening to a trained and eloquently prompted advocate. It is not a man in a natural state who is elevating the alcoholic fluid to the rank of a benefactor, but one who in reflecting the virtues of a thing that has made or produced the evils it has helped for a time to relieve; and, as a rule, the more earnest the protest in favour of the thing, the more certain is the hold which the thing maintains on the protester.

To this rule I, with unusual opportunities for observation, have seen no exception. Whenever a person is speaking earnestly in favour of alcoholic drinks as the result of his or her direct experience of the value of such drinks; whenever a person says he finds wine to be absolutely necessary to meet such and such a case—anxiety, fear, indecision, or emergency—I know that the expression means danger; means, if the speaker be in earnest, that he of all men should renounce the agent that is so fair to his sensations, so false to his organic stability. I know that alcohol has there set its seal on the constitution, and that its eloquent advocate is one of those veritable brands of alcoholic type who will as certainly go from bad to worse if he persists in his course as that the seasons of the year will progress in their regular round.

The transition is natural. The effect of alcohol is to bring about, on a fixed and certain plan, what we are

bound to call degeneration. Changes of tissue, commencing probably in the nervous tissues and in the peripheral lines of that tissue, extend to the nervous centres, and, by the paralyzing action set up, overcome the will on the one hand, and the nutrition of the organic parts on the other, until the whole system, mental and physical, is alcohol-logged; dropsy of alcohol, followed, not uncommonly, by the better known dropsy of water, from arrest, more or less complete, of the function of great eliminative organs like the kidney and liver.

The praises of wine and other alcoholic fluids are purely artificial. In a community that is free of the influence of these fluids the praise cannot be sung, because the need for the praise is unknown. The abstainer has nothing to thank alcohol for, and, consequently, gives to it no thanks. Everything connected with the use and praise of the thing is artificial, and has no place in the healthy nature. In the whole range of the living creation alcohol has no place until we reach man, and amongst the worlds of man himself its place is limited and definite. The alcoholic world is a world *sui generis*. It stands out before the physician as a phenomenon which he must learn and meet and treat.

In the presence of this great and puzzling phenomenon of life, dividing, as it does, into an infinite of minor phenomena, the physician has before him two distinctive lines of treatment, the preventive and the curative. He has, I earnestly submit, always before him the preventive duty. He has to endeavour to stop the entrance of evil. But he has also to endeavour to arrest or to cure the evil that may have become implanted; to meet feelings and arguments which are not sound, but which are none the less forcible, because they have, in the course of time, been bred, if not born, in those who experience and express them.

When the experience or sentiment of the sustaining power of alcohol on the heart and circulation has been firmly implanted, and when from the

serious experience of the recipient it is strongly affirmed, danger as to the physical condition of the person afflicted is certainly present. A faint heart, that can be systematically restored by resort to alcohol, is a diseased heart. Of that I am as certain as I am of the existence of the heart itself as a piece of the animal mechanism. The treatment of alcoholic disease begins more frequently at this stage than at any other. The sense of the vital want is the primary symptom of the vital intoxication. The heart, which always receives the first charge of blood it serves out, is, as a matter of physical necessity, the first to feel any change in the blood supply; the first to fail when the influence of the stimulant has been withdrawn; the first to rally under the stimulant re-supplied. For this reason the person who depends upon alcohol experiences what is ordinarily called "sinking at the heart" after a short time of absence from the stimulant, followed by what is so commonly called "pulling up," that is to say, revival of heart-power, when a new dose of stimulant has been received into the body.

The classes of cases in which the phenomenon of alcoholic feebleness of the heart and circulation is represented are many. They have for their origin one cause, but they vary in character according to the external surroundings or accompanying conditions. Let me offer some distinctive examples which have come under my own observation.

I.

Mothers who are nursing their infants from the breast are often striking examples of alcoholic failure of the heart. In the position in which the woman is placed as the nursing mother, the circumstances are all favourable to the development of the disease. The woman is suffering a daily privation which can only be met by an excessive taxation on her bodily powers. She has to supply two systems with food, without any additional organisation for meeting the demand. Her digestive system

her circulatory system, her nervous system, remain unchanged in respect to vital capacity for work, but they must all give extra labour towards meeting the new and steady want. Naturally the nursing mother ought to meet the strain by doing less work than before, by taking abundant rest, and by living on a carefully-selected and sufficient diet. If she can carry out such a mode of life, she goes on well, and as she is not, during the time of nursing, subjected to menstrual loss and perturbation, she passes through the ordeal safely and soundly.

Unfortunately, in too many instances, in the wear and tear of an exacting life, the nursing mother is not able to live according to natural laws. She has to work too hard, or she takes too much pleasure, or she sleeps too little, or she consumes too small a quantity of food, or she partakes of food that is not of good quality, or she lives amidst too much excitement. In short, there is scarcely ever a single example of a mother in these days of inverted pyramidal civilisation, nursing her infant in a form that accords with the natural plan, design, and necessity conducing most to the health of herself or of her offspring. The life, it is declared, is too artificial to be sustainable without recourse to artificial means of sustainment.

Under these untoward conditions, and guided by a false habit which a few years ago was all but universal, the nursing woman seeks for artificial aid from some alcoholic drink. Her digestion is bad, or she has been too long without food, or she has been engaged in some occupation that has called largely upon her physical powers, or she has suffered from excitement or depression of mind, and she feels that she must be immediately supplied with food or drink to avert actual collapse. She knows that a good meal would do all she wants if she could take it; but it is not at hand, or she has no appetite for it, or if she did take it it is too slowly digested to fill the gap straight-away. But an alcoholic stimulant does the trick at once; a glass or two of port

wine with a finger biscuit; a glass of stout with a biscuit or a piece of bread and butter; and, the vital powers are at work again: the woman is fed and the infant finds from her its needs.

The temptation to renew this experiment is soon irresistible, and, as it seems to the uninformed, more than pardonable, nay necessary. Why make new and troublesome plans, why hesitate and grow faint, why keep the child crying for nourishment, when the instant remedy is at hand?

In proportion to the apparent benefit derived from the alcohol, the real evil is displayed. A certain amount of water which is required at once for the blood is at once supplied; a certain glow or warmth communicated to the stomach is comforting and deceiving; a certain quickness and rapidity in the action of the heart, which is soon set up, causes the nervous centres to be charged with blood, and is more deceiving still; while a certain free flow of milk, which seems to supply all that can be desired, completes the deception. From the beginning to the end of the process nothing in the way of food has been yielded by the alcoholic solution except the water which carried the alcohol, and a modicum of sugar and other solid material of food, which set out on a dish for a meal would be an insult to the poorest appetite. But all through there has been a physical-chemical change; an excitement which has wasted while it has excited; which has made the heart do a fourth more of work; which, in the end, has yielded no foundation, no structure for flesh and blood; no material for the animal heat; and which only too rapidly has declared, in the quick desire for repetition, that out of nothing comes nothing, and that ashes will not feed the animal fire.

The consequences of this mode of treatment, often repeated, cannot fail to lead to permanent organic failure of the heart and circulation. The inevitable danger may be averted or lessened by the course usually recommended, when the induced exhaustion is serious, that the nursing shall be

stopped. Yet often that advice is too late. The sentiment has become physically implanted that the alcohol is a necessity; and, the disease induced, sustained by what it feeds on, is confirmed into fatal significance.

II.

I adduce the example of the nursing woman first, because it is the most steady and common of examples, not because it is exceptional. The same examples may be found amongst men who are daily tired by engrossing and exacting labours which bring into wearing play the mental as well as the physical powers.

At one time men who were subjected to extremes of physical exertion were wont to depend on stimulants for the carrying out of great effects. Now by the introduction of fair and measurable competition in the field, on the race-course, at the shooting butt, on the river, the egregious blunder has been corrected by the common and unquestionable observation that in all trials of strength and physical skill, depending on the heart, those who avoid the treacherous aid of stimulants are the safest and surest conquerors. The proof has still to extend to the other classes of men, to those who are engaged in mental work accompanied with much worry, or much responsibility, or much care.

Persons in active commerical business are easily brought under alcoholic failure of heart from false dependence on alcohol. They are so busy or so absorbed in business pursuits, they forget their regular meals, or, what is equally bad, they are too much hurried and pressed to find the time for digestion. In emergency, as a matter of expediency, they take some light thing of food, a biscuit, a crust, a sandwich with a glass or two of wine or other equivalent alcoholic stimulant. They feel for a moment refreshed and ready for business. They repeat the dose as occasion seems to demand, omitting too often the food; and at length trusting, by habit, to the wine alone, they resort to it for ready and instant support. As one of my own medical brethren explained the matter to me

from his own personal experience, "I can get all I want from a meal when I have time for digestion; but as I can get, temporarily, the same from wine and save the time, I take wine and accept the consequences." The admission was as candid as it was exact. Yet I noticed, by comparison, in my own case, that, taking the time for the digestion, I could, in the long run, get through as much work as my friend, and more varied.

Other classes of men who depend on alcohol until it reduces the action of the heart are those who have regularly to strive against time, and especially men who have to work in that way at and through the night. In the work against time there is always extra exhaustion, for the simple and natural reason that under such circumstances there are two sources of waste, two expenses of energy, in steady progress. There is the work being done, and the fear or desire arising from the necessity that the work must be done. The one expenditure is employed in impelling the other, and the one seems to back up the other in inducing the desire for stimulating drink. The glass of wine or spirit appears to quicken; and for an instant, no doubt, does quicken, the labour. The ideas flow rapidly; they flag; the stimulant is repeated, a better flow follows in quick response, and under this constantly-renewed spurt the work is done. The exhaustion which succeeds may be so extreme as to exclude all hope of perfect rest from sleep, for jaded nerves never sleep well; but the work is finished, and the end, it is thought, justifies the means.

III.

There is a third class of men who fall into the same habit of accepting alcohol as if it were food, and are defrauded by it; I mean men who live on what is called excitement. These persons are, by their mode of life, thrown into scenes which subject them to persistent variation of hope, suspense, fear, disappointment, delight. They are engaged in some speculative calling,—the betting ring, the commercial ring, the political arena, the game

of chance. Or, they live by the applause of the multitude, on the stage, or in some other position which brings them prominently before the public. The strain on the nervous and muscular systems of these actors, for such they all are, is often terrific, and the want of something to keep them rapidly going is, to their minds, constantly imminent. The alcohol, always at hand, is the one thing only that they require for emergencies. They get into the habit of resorting to it, and into the fixed belief that without it they are helpless. There are no persons more difficult to reason with on the surreptitious action of alcohol, to whom wine is the mocker.

IV.

Not to enter into too much detail on the classes of the deceived, there is one more which must be noticed. I refer to the class of men and women who take a stimulant on the honestly confessed principle that they "take it because they like it." To these it is an indulgence, and their reason, as a reason affecting themselves, is unanswerable. They feel effects from the draught of wine or spirits so truly pleasurable, they have become so habituated to the pleasurable sensation, that to them it is a second nature. To them wine is not merely the thing most required; it is, to their ideas, the choicest sustenance. To argue with them is in vain. If you offer yourself as a living illustration of the fact that life, and active life and enjoyable life, is easily supportable without the fictitious supporter, they pity you and wonder, but are no more convinced than if you told them that you had discovered a mode of living without any food or any drink.

In all these classes, nevertheless, as well as in others which I have not particularised, but on whom the alcoholic tax on the heart has been levied, there is the common and frequent danger, that under the repeated influence of the alcoholic fluid the heart shall become enfeebled, and, the enfeeblement started, that it shall be intensified, by a deeper trust on the agent which has led to its develop-

ment. For a short life and a merry one, alcohol is a wishing talisman that rarely fails to prove itself a success.

CHAPTER II.

SYMPTOMS OF ALCOHOLIC ASTHENIA.

The symptoms of failure of the heart from alcohol, in whatever class of cases they may occur, are all but uniform, and are so characteristic that none who observe and study them, with care and without bias, can fail to recognise them. The most marked feature of them is, emphatically, failure. The subjective symptoms signify failure; the objective, taken as a whole, also signify failure.

Dealing first with the symptoms which are subjective, the patient says, in describing what is felt, that there is a sensation of depression or sinking at frequent periods, which depression, until very late in the history of the disease, is relieved by a stimulant. At first the depression may be referred to the stomach, and in some it is always felt there when it first commences. In a short time it extends to the chest and heart, and is most commonly defined as a sinking at the heart, accompanied by physical feebleness in the chest, which seems to be relieved by bending the body forward, and which is always relieved by getting more support for the body, as by leaning forward on a chair, a table, or a stick. I once heard the feebleness very correctly described by a patient as "an inability to stand firmly and perfectly upright." The expression is true. The shoulders are thrown forward, and there is a disposition to stoop until the restoration to equilibrium is obtained. Briefly, we may say that the subjective symptoms are like those which follow want of food or nourishment; but too frequently repeated: the desire is for "little and often."

These are the subjective signs of an early stage. In a stage of further progress the sensation of failure is quickened, and at the same time intensified. The area of exhaustion is extended. The sinking at the stomach and chest is soon succeeded by a sense of lightness of the head, attended by nausea

and giddiness, with subsequent coldness, faintness, and a desire for the coveted stimulant which food does not pacify, and which is most difficult to restrain.

In a third, and still more advanced stage, the symptoms of exhaustion are yet more frequent and severe. Any little additional demand upon the vital powers is sufficient reason for their development, and the will to resist the stimulant is feeble than ever. In this stage there is manifest failure of muscular strength, and uncertainty of muscular precision. There is equal uncertainty of mind and failure of judgment.

In the last, and what may be called fatal stage of the alcoholic asthenia the subjective symptoms are those of complete physical and mental collapse—"sans heart, sans will, sans mind, sans everything." In this stage even the stimulant fails to revivify: it makes things worse, and lets down still lower the enfeebled life.

The objective symptoms are as decisive as the subjective, and present as many stages when they are carefully looked for; but as the physician is rarely called upon to observe them until they have reached the second, or more frequently the third, stage, they are less known than those of later development. The patient is his own physician in the first and second stages. He thinks he is acquainted with what suits him, or, as he explains, he thinks "he knows his own constitution;" and this lasts up to the point when, in spite of such knowledge and in spite of the action he takes in relation to it, he cannot get on without some further advice. Here, therefore, in the later stages, the objective evidence comes under skilled observation.

The objective evidence now presented is from both the physical and mental sides. There are the usual symptoms of what we call the alcoholic dyspepsia. There is cardiac irregularity of tone and of time. The pulse is at one moment feeble, yielding to the sphygmograph a tracing of one and a half to two and a half degrees of impulse at most. At another moment, after a new dose of alcohol has

been swallowed, it is sharp and bounding, yielding, at this period, an impulse tracing of seven to eight degrees, with an acute angular return stroke and a descending trace reaching nearly to the base of the ascending, with very short intervening checks and a distance of less than half the natural space between each impulse. At yet another period, when the influence of the intoxicant has been long withdrawn, there is a "rotten pulse" in the full sense of that characteristic term. To the finger it is feeble and irregular. To the sphygmograph it affords a tracing simply abortive in all its details. The impulse trace is not more than two degrees; the first return or falling trace is down to the level of the base of the impulse: the intermediate events are scarcely recorded, and the irregularity of tension is such that it is impossible to fix on any one base line as the origin of the tracings or the foundation of the series of events. The pulse, like the mind, is uncertain and unsound.

The temperature of the body in persons who suffer from alcoholic failure of the heart is variable. Immediately after the reception of the full dose of the stimulant the temperature runs into fever heat. I have seen it up to 104° Fahr. As the effect of the alcohol declines, the temperature rapidly falls, and one of the worst signs of degradation from alcohol is the coldness of the body under deprivation. The hand of the sufferer is so cold that the moisture exhaled by the skin condenses on the skin, as it does after the hectic of consumption, so that the skin not only feels cold, but also moist and clammy. The moisture does not trickle from the skin, however, as in true colliquative sweating, but conveys to the touch the idea of a cold and sodden surface like dough. In this condition the reduction of temperature may be as low as four degrees beneath the natural standard. So great is the fluctuation, indeed, in these cases, that I am writing with the particulars of one such case now before me, in which, from day to day, the temperature had a range of from 96° to 102° of Fahrenheit's scale.

The mental phenomena are most

distinctive in alcoholic asthenia of the heart. As the circulation varies, the mind varies. As the gas light flickers and changes when the pressure is variable at the main; at one minute flaring away with noise, heat, and bluster; in a little failing to a mere point, so that there is fear that it may go out altogether; and in another period burning with fair steadiness but no persistent certainty; so, that light of life, the mind of the person who is suffering from alcoholic asthenia of the central organ of the circulation, blusters, ebbs, flickers, and varies as the pressure of the blood varies and determines the effects. At one moment the mind is vehement and inconclusive; at another it is so feeble that it can determine on nothing definitely. Again, for a season, it assumes some degree of order: but at its best it is uncertain, ever hoping against hope, and striving against strife, towards despair or imbecile fatuity.

Meanwhile in many instances some other vital organ, besides the brain,—the lung, the liver, the kidney,—follows the brain in injury; and that universal degeneration in which all parts are involved in the destruction, receives its full and fatal development.

In the above descriptions I have written the life history of many who are openly and admittedly inebriates. But not all who thus suffer are of the open inebriate type. I frequently am consulted by sufferers from true alcoholic asthenia of the heart, who are not only unsuspected of inebriety by others, but who do not suspect it themselves. They see persons who take more alcohol than they themselves take, and, therefore, they judge that they themselves are comparatively safe. They argue from some rare experience that a certain man they could name has far exceeded them, and still has reached to a length of life that is quite remarkable. Why, therefore, should they suffer from their more temperate indulgence?

On the whole, I have seen more cases of alcoholic asthenia of the heart in these unsuspected and unsuspecting people than in open and admitted inebriates.

One more symptom, which may be either subjectively or objectively declared, is a part of the history of alcoholic cardiac asthenia that must not be forgotten. In advanced stages of the asthenia sleep is perverted. In certain instances, not numerous, sleep is deep, prolonged, and so frequently repeated during the twenty-four hours as to become a matter of comment by observers. As an ordinary fact sleep is most imperfect during the asthenia. Usually soon after the body has lain for an hour or two in a state of repose, the process of "running down" is induced. The heart works, for a time, at low tension, and then comes almost to a sudden stop; upon which there is a hasty start from sleep, and no more sound sleep during the whole night. From this untoward circumstance the asthenia is increased, with further desire for the stimulant, until alcoholic insomnia is the added and crowning evil.

CHAPTER III.

TREATMENT OF ALCOHOLIC ASTHENIA.

There are no cases more difficult to treat in these days than those of alcoholic asthenia. I say "in these days," because in a past day, which I very well remember, there was no doubt, and, therefore, no difficulty on the subject. We were led to believe that alcohol was a necessity of life, that wine was a means of support, that in all cases of weakness it was proper to give a stimulant, and that, as a matter of course, the stimulant must be continued in the disease now under consideration. The point of practice was the adaptation of the quantity to be administered in the particular example of the disease that was under management. I do not recollect a single instance in which any success whatever followed this method of treatment; neither do I see how any could follow, because there was no precision in method, no sound reason. We did not form any idea as to what quantity of alcohol was contained in the draught of wine, beer, and spirit that was prescribed, and we ordered, usually, a reduction of the amount which the patient himself told us he might be taking, a state-

ment as worthless as it was speculative. Still, this was considered to be the right practice. We argued in these cases as we did in the treatment of delirium tremens, "Reduce the amount, but continue the cause of the disease."

Experience has now been obtained which rests on a sounder basis than the *experientia fallax* derived from authoritative and unquestioned dogma. We have learned the action of alcohol, and we have learned that so long as the influence of alcohol is maintained there is no cure of alcoholic asthenia or failure of the heart. We have learned also, from direct and conclusive observation of fact, that the fear of danger from the instant withholding of alcohol in alcoholic asthenia is one of those delusions which has only to be tested to be completely demolished. No alcoholic gaol-bird has ever seriously suffered from immediate abstinence from the usual stimulant. Nor, according to my observation, extending over a period of ten years, is there, in any case, anything worse than a temporary, and often nothing worse than a sentimental, deprivation.

The fact to which an unprejudiced reading of nature leads, irresistibly, may be embodied in the rule, that, *the greater the sense of failure of the heart from alcoholic debility, the more urgent is the necessity for absolute abstinence from alcohol*. In other words, the sensation of failure is the surest test, the most certain symptom that its cause should be removed instantly, resolutely, absolutely. I can say, most truthfully, that I have never seen a single recovery from alcoholic asthenia of the heart under any system of half measure or tampering with the enemy, even under the most guarded care.

I believe that this natural truth is now becoming, day by day, more completely recognised. Medical men are not merely recognising it from what they see amongst their patients, but in many instances from what they feel themselves in their own persons. One of them, who has lately sought my advice on his own case, told me frankly that he traced the origin of

his cardiac failure with as perfect clearness and certainty, as if he had been conducting a series of experiments on himself in order to write an essay on the subject. But until he came to me, he could not make up his mind to do anything more curative than pursue the hopeless task of endeavouring to cure himself by half measures. He told me another truth, which I have heard before, that the endeavour to cure by the half system rather increased than reduced the danger. When, under the sense of great lowness of power from the heart, a small dose of alcohol was taken, it did no more than tantalise, and led to nothing less than an intenser craving for a second and a sufficient dose. Thus a dose and a half would often have to take the place of what, under the old plan, was a single and efficient quantity, because the first dose, which did not relieve depression, added to the disturbance, and increased desire.

The first step, then, in the scientific treatment of alcoholic asthenia of the heart is to remove the cause.

A second point, to which attention is almost invariably drawn, relates to the use of so-called substitutes for alcohol. In my early attempts at treatment I trusted much to the method of finding a substitute, and, indeed, I think there are few discoverable combinations which I did not use. I have come leisurely and clearly to the conclusion that each and every one is a radical failure, physically and morally. Physically the so-called substitute, if it produce any effect at all, acts like alcohol itself. It is a substitution of one evil for another.

The moral failure of the substitute is as bad as the physical. The moment the necessity for a substitute is admitted, the necessity for alcohol is implied. Then the patient loses confidence, and falls back on the original source of error.

A third advance is to get the patient to trust to the natural cure under proper regimen and diet. An immense deal turns here on gaining confidence. The physician cannot be too firm, too assuring, too persuasive. He encounters every possible obstacle; the pre-

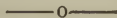
judices of interfering friends who may know nothing about the danger in which the patient stands; the difficulties of social life—hospitalities; the fear of the patient that the fact of his abstinence shall be misconstrued into the suspicion that he has been a secret drunkard or hard drinker. All these obstacles have to be met and they must be met. The patient must be persuaded not to listen to such false leading. He must be induced to forget alcohol altogether.

A fourth rule of practice relates to diet and regimen. The lesson must here be enforced at once that no more food is required under abstinence than under the use of alcohol. If the patient entertains the insane delusion that because he abjures alcohol he must take more food, the first bad event will be a fit of indigestion from over-eating, a fit of melancholy, and the strongest desire to return to the stimulant. It is well perhaps to take a shorter interval between meals during the early times of abstinence, but the meals can scarcely be too light. The instant the stomach seems to be satisfied, the sign "enough" has been given. For immediate depression a draught of hot milk and water,—equal parts of the two fluids with a little sugar,—affords the best support, and for a drink at meal times this is also a very good mixture. Grapes and fresh fruits generally are good adjuncts to breakfast as well as dinner, and a leaning towards a vegetable diet is a decided benefit.

Two luxuries I strongly advise all sufferers from alcoholic failure of the heart particularly to avoid, as they

are learning to conquer the craving for the enemy. These are tea and tobacco. The number of relapses which I have seen brought about by these two agencies, tea and tobacco, are so many, I almost despair of success so long as they are persistently used. They both depress the circulation and make the craving for alcohol extremely severe. Coffee is less objectionable, but it often produces flatulency and indigestion. Cocoa is, as a rule, very suitable, but milk and water, with, as a change, a little fresh lemonade, or a mixture of water and fruit lime juice, meet the question of drinks thoroughly well. Very soon the abstainer from alcohol drinks less fluid of every kind. From fifty to eighty ounces of fluid a day under alcohol, he comes down to thirty or forty, is satisfied with water pure and simple, and is lighter and better for the change.

One rule remains. It is absolutely necessary, in order to ensure a good recovery from alcoholic asthenia of the heart, for the sufferer to get plenty of wholesome rest at night. Early to bed is the last prescription in this essay, and in some senses the best. To bed before eleven at night and rest of heart in recumbency to seven the next morning is the order. Let this rule supplement the rules which have gone before, and of the many who suffer from failure of the heart from alcoholic drinks, there are none that will not be benefited, and few that will not be cured; assuming always that the devil of degeneration has not produced fatal transmutation of vital organic structures.



THE BRITISH MEDICAL ASSOCIATION AND THE NATIONAL TEMPERANCE LEAGUE.

ANNUAL MEDICAL BREAKFAST.

For the eighteenth time the members of the British Medical Association were entertained at breakfast on the occasion of their annual assembly. The "Parliament of Medicine," as it has been not inaptly called, met this year at Brighton, and the breakfast

took place in the Royal Pavilion on Friday morning, 13th August.

Mr. Marriage Wallis, J.P., who has most creditably filled many public offices in Brighton, and is also a Vice-President of the National Temperance League, occupied the chair, and there

were present about 160 members of the medical profession. The chief address of the occasion was delivered by Dr. Nathan Davis, and will not soon be forgotten by those who heard it. It was an epitome of advanced medical opinion upon the question of alcohol, and embraces all for which in this country temperance reformers have contended.

The CHAIRMAN said: As one of the Vice-Presidents of the National Temperance League I bid you a hearty welcome to our breakfast table. Also, as a resident of this town, I welcome the members of the British Medical Association to our shores. We have now present gentlemen who will address us on the particular subject that has called us together, and on my right hand is Mr. John Taylor (Chairman of the Executive Committee of the National Temperance League), and you will have also noticed that Dr. Norman Kerr is here, and other gentlemen who will address us; but specially we have the great pleasure of having with us a gentleman from the other side of the Atlantic, Dr. Nathan S. Davis, of Chicago. (Cheers.) I am very glad the meeting gives our friend from so distant a country, and one so nearly allied to us, so hearty a reception.

Mr. JOHN TAYLOR, who was received with cheers, said: Mr. Wallis and gentlemen,—My duty to-day is not to speak, but rather to be the medium of introducing one of our distinguished stranger visitors. I should, perhaps, first express our regret at the absence of our President, the Lord Bishop of London. It was quite his intention to have presided over this meeting, but the direction which politics took and the early breaking up of Parliament altered his arrangements as to residence in town, and we are, therefore deprived of his presence on that account. He is now in the North of England. I regret his absence, because he would have entered into the matters before us with great heartiness, and we should have heard from him that which would have both interested and instructed us. The President never undertakes anything without giving

great attention to it, and I regret that we have not the advantage of his presence now. I will mention one circumstance in connection with the President, that he undertook to adjudicate upon the prize which was offered by the British Medical Temperance Association to students of £100 for the best essay on the advantages of total abstinence. The Bishop, in conjunction with the present Attorney-General, Sir Richard Webster, Dr. Ridge, Dr. Norman Kerr, and Dr. Richardson, undertook to adjudicate upon that prize, and it was awarded to Mr. Coryn, a student of Charing Cross Hospital. I look upon this essay with very great interest as exhibiting the views of temperance from the standpoint which we of the National Temperance League take, of the present student class of the medical profession, and I think the evidence of the essays, not only of the prize essay, but also of the others, marks the forward movement in the medical profession as to the manner in which they regard the use of alcohol. He looks upon abstinence not merely from its negative advantage, but from its positive advantage as regards health and longevity. I am now going to propose a resolution. It is one of welcome to Dr. Nathan Davis, of Chicago, and it is couched in the following terms:—"That this company of members of the British Medical Association, assembled on the invitation of the National Temperance League, welcomes the presence of Dr. N. S. Davis, and his brother delegates from the American Medical Association; congratulates Dr. Davis, President of that influential Society, and of the International Medical Congress of 1887, on his ardent and consistent practice of total abstinence for over half a century, and trusts that he may be long spared in his intelligent and earnest advocacy of the sacred cause of temperance."

Dr. NORMAN S. KERR was called upon to second this resolution, and said: I do not know that I am a fish out of water, but I almost feel that on the present occasion, having passed no inconsiderable period of the hap-

piest portion of my life, partly under the glorious banner of the stars and stripes, and partly on the same grand continent under our dear old Union Jack, at this moment as if I were not under the hospitable dome of Brighton but somewhere else, across the Atlantic amongst the not less hospitable but even more generous and warm-hearted people of America. In seconding this resolution of welcome, it seems to me an augury of great omen for the future progress and happiness not only of America and of England, but of the whole human race, that in the President of the American Medical Association, the veteran head this year of the great profession of medicine in the vast country of America, and in the same person also the President of the great International Medical Congress of 1887, we also have an honourable and consistent teetotaler of fifty-eight years' standing. We are not all abstainers here to-day, but some of us at least think that temperance to us only means total abstinence, while at the same time we are quite willing to agree that those who do not go as far as we do have at least the same common object in view—the diminution of intemperance, and the progress of the great temperance reformation throughout the whole nations of the earth. In regard to our distinguished guest this morning, let it be noted that while he has been ardent and consistent and thorough in his teetotalism, he has been moderate and intelligent at the same time. No man can ever accuse Dr. Nathan Davis, of Chicago, of having sacrificed the profession to morality, or allowed the dictates of any society, or theory, or practice of his own to interfere with his duty to his patient at the bedside. I hope the time is not far distant when each one, whether total abstainer or "limited drinker," a more scientific term than "moderate drinker," will feel that the common duty is never to give alcohol if it can be avoided; if compelled to give it in certain cases of disease to see that it is given for the occasion only and in as accurate and as proper doses as the strongest poison in the Pharmacopœia. I ask Dr. Davis to

take these words to his great association and the great congress to which I hope many of us will repair, and which will be held at Washington. I ask him to take to that association this fact, that there is in this old country, sometimes ahead of America, though generally behind her, an advance on this question. We have here the British Medical Temperance Association, composed entirely of total abstainers, medical men, of whom there are 350 nearly, and my friend Dr. Ridge, of Enfield, is the hon. secretary. The members are all total abstainers, with a considerable number of students and with branches in Ireland and in Scotland; and we deplore the fact that America, which was ahead in this movement at first, is not ahead of it in the medical profession. We ask Dr. Davis, with that great wisdom and with the influence he exerts over the two honourable bodies I have named, that he should inaugurate and institute a society of a similar kind on the other side of the water. If he does that and bears this mission from here, then this breakfast this morning will be an event in the history of the temperance reformation. I beg most heartily to second this motion of welcome to our noble and distinguished guest.

The CHAIRMAN: I ask you to give a hearty vote of welcome to Dr. Nathan S. Davis.

The motion was carried by acclamation.

Dr. NATHAN S. DAVIS, who was loudly cheered, said: Mr. President, and gentlemen of this Association,—Probably no event of my life has given me more sincere pleasure than to meet you this morning under these circumstances, marking, as our gathering does, the progress of a cause that has been very dear to me, from, I may say, not fifty years, but almost from the time I was a child, from the time I was old enough to appreciate the evil effects of alcoholic drinks upon man, and I have consequently been trained from early life to abstain from alcohol. I have used no alcohol as a drink, not enough to make a pint cup full, for any purpose, for more than fifty years.

I might carry this as far back as I have used years of discretion. I might as well say in favour of early training—for I see there are some mothers here, or those who represent mothers—the influence they have upon the great race of man. A little was said by the president of your Association, or, more properly, a great deal, on the evening of the first day about their influence; and much discussion has taken place in these times about the relative rights in my country of the female sex and their admission to every relation and business occupation of life; but my experience, the impressions that still, after almost seventy years, adhere to me, come from my mother. Though she parted from me and went to her long home and peaceful rest when I was at the early age of seven, she blessed me, and that blessing is with me still, and has been with me all through life; and if the mothers could realise fully their influence and their mission in life, if they would renovate this world, if they would make it a Garden of Eden of morality—let them realise to the full their mission in the training of early childhood of every child that is born. I will not detain you with any discussion as to the influence of alcohol and the necessity of the medical profession giving attention to the subject. I will say that, while advocating total abstinence in every way, and adhering to my own principle, wherever I might be, yet often the proverb, “When you are in Rome you should do as the Romans do,” has come to me; and if everybody around you has the wine-cup and you have not even a glass to put water in—unless you send for it—you are apt to feel that you may allow yourself to do as the rest and not be odd; but I cannot reconcile it with propriety to yield to that maxim. It is a dangerous maxim in any relation of life. If you are among the Romans, or if you are among any people, the maxim should be to adhere to an example for right—and I have often said to my folks at home that there is no reason in the world why temperance men and temperance women should not be just as bold in the as-

sertion of their principles as the opposite side are in theirs. Those who drink do not hesitate a moment to ask you to take wine with them—why not ask them to take cold water with you? Have I not the right, just with the same propriety, to say, “Drink my beverage,” as the other has to ask me to drink his? How many thousand times do you see those who do drink get together, and perhaps they have already imbibed more than is proper, and some one of them would gladly be getting home, but the others say, “No, we must have another drink.” They go by a drinkshop, and the one wants to go past it; but the others pull him in and literally carry him with them. Did you ever see the temperance man of the temperance company that turned the tables upon them and pulled them just as hard, even with physical force, in the opposite direction? And why not? Consequently, from the year 1844, which was the first time I was out from my own home in the social circle, where I was put to the test—around a certain social table were gathered a company of medical men to dinner. The host sent the wine round, and each allowed his cup to be filled, and I knew one sitting there did not drink at home, but I watched him, and he allowed his cup to be filled. And another allowed it to be filled; but when they came to fill mine, I said, “I do not take any,” as mildly as I could and as politely as I knew how. The host at whose table I sat was directly opposite, and his face flushed in a moment. “What, take no wine with a friend?” I said, “You must excuse me; I do not use any at all.” It seemed to touch him almost to the extent of enmity or insult to refuse to take wine, but with the usual tact of our good ladies, his wife, who sat by his side, immediately took up my cause and turned the subject and it passed off. There was my first rebuff. It was in early life, but from that day to this in our national associations, when almost every glass was filled and toasts were drunk—in every assembly from that day to this, my cup of water has been up to drink just as boldly as

their wine. And how has the world progressed on this matter? Why now, as simple illustration, in the Illinois State Medical Society, which often meets in the City of Chicago, and when meeting there has a full meeting, enough to fill two of these tables, they sit down to their dinner, and sometimes almost the whole of those tables are filled. For the last four or five years at their annual banquets not a drop of intoxicating drink has entered the room. It is true that we have not organised a temperance society among the medical men, but it is not because we have not thousands of teetotalers amongst the profession of our country. Many of the most active workers in the field lecturing are our medical men who are abstainers. Some of them are of high standing, and hardly a week passes, when I am at home, but someone writes from different parts of the north-western country alluding to something connected with the use of alcohol in the treatment of disease, and informing me that in that matter "I agree with you. I have found I can get along better without alcohol in the treatment of disease than I can with it." And if they were summoned together I could have not less than 500 or 1,000 who have actually put it to the test and found by experience they need no alcohol in the treatment of disease. And so far as I am concerned, although I was taught, like all others, to use alcohol as a tonic when patients were sick—when convalescence came a little wine each day or a little bitters or some bitter herb put into whisky taken every morning before breakfast was calculated to hasten their recovery and promote their strength. Yet it did not take me very long to find out that here and there one of my patients was already a teetotaler who would not take wine long, nor any kind of alcoholic drink unless it was prescribed, just as we prescribe castor-oil—dose by dose, but who, when he got beyond the necessity of having it as a medicine, took no more. What was the comparison? I soon found that my patients who refused, or did not take alcohol under the impression of

hastening recovery and strength, got strong quicker, and had less tendency to relapse than those who continued its use. Here was the first step in progress, and consequently I came soon to abandon the recommendation of that agent merely to hasten recovery of strength. As a tonic I found it of no value. On the contrary, while the patient took it for the first few days or nights (generally not more than a week), the anæsthetic effect diminishes their weakness, but there lies the great delusion. One of the curiosities to my mind in regard to alcohol is the delusion it has upon the world. The good old book did not say in vain, nor at random, that wine was a mocker and that strong drink was raging, and that whosoever was deceived thereby was not wise. Those words were put for a purpose, and they have their meaning. Mocker! raging! and those that submit to it, not wise. Now, when a little alcohol is given, just such as would be considered a tonic—what does it do? It is just like ether or chloroform, or any other anæsthetic—it dulls the cerebral hemispheres, and so removes for the time being the consciousness of aches, and pains, and weariness, and leaves the individual at ease. But a little further, and it diminishes these sensations still more, and the body begins to feel light, and hardly conscious of its own weight. In this stage there frequently comes the disposition to dance, and sing, and the tongue gets loose. Now the world calls that evidence of excitement, evidence of stimulus; but instead of accepting that verdict analyse it, and it is exactly parallel with every other anæsthetic. The patient goes through exactly the same stages with chloroform. But where is the surgeon who supposes he is stimulating or invigorating his patient? It is only the transition from the first beginning of diminished consciousness. Next he begins to lose his sense of propriety, and talk as he would not talk were he free from that influence, and that same influence causes him to say that it protects him from cold. How long the ages have been in which the belief has prevailed that if you are

going out into the cold you cannot stand it without having something to warm you. And they would be ready to testify before a court of justice that it did warm them. How many thousands of our profession have been giving it, are giving it to-day, when the feet are cold, to help to warm the patient, even to this day, and yet the clinical thermometer tells you accurately step by step that from thirty minutes after it is taken on to the end of its influence the temperature is diminished. The patient would testify the contrary. Why? Simply for the reason that the anæsthetic effect diminishes his consciousness, of whether it is cold or not, but he finds out the fact the next morning. Had his sensibility remained he would have known when he was getting cold, and he would adopt the proper precautions. Look again when July comes, and the sun is pouring down, and the labourer stripped almost to the skin, is delving or working, and dripping with perspiration. Watch him as he goes in front of that saloon: you will see him go in and take exactly the same beverage that he took last January to keep off the cold. You meet him at the door and ask him why he spends his money for such a purpose. From his very aspect you judge that his family are poor, and are, perhaps, needing the necessities of life. He will reply, "Oh! I cannot stand this heat without something to protect me from it"—exactly reversing the case. It warmed him in January, and now it keeps him cool—the same delusion, it protects him from the heat. The sun's rays permeate him as freely with the alcohol in his blood as it would without it, but he does not realise it, and hence hundreds and hundreds year after year persist in this practice till perhaps a sunstroke arrests them and sudden death follows. Leave their brains clear and free from the anæsthetic effect of alcohol, and they will know when to get on the shady side. Just the same when our good ladies—I allude to them without, I presume, trespassing upon modesty, for there are various veins in this delusion—are nursing: they suppose

that nursing pulls upon their strength, and thins their blood, and that they must drink wine or beer every day, and two or three times a-day, to keep up their strength. Now, I have watched that as carefully, to use an expression, as a cat watches a mouse, and what is the result? The good mother takes her beer, or her little wine every morning and each meal to keep up her strength while she is nursing, and sometimes they add—to make milk for the baby; but my experience and close observation for years is that that mother suffers exactly the same delusion as the labouring man to whom I have referred. True, she feels weak, she gets tired easily, and with the little anæsthetic effect of alcohol she does not realise the sense of weariness in her muscles, and she says, "It is the only thing that keeps me up and enables me to get about," but every one of them within four to six weeks of its use, when they stop and compare their condition with what it was when they began, they know that their last state is worse than their first. The alcohol has been a positive detriment to them. Its presence in the blood diminishes the absorption of oxygen in the air cells of the lungs, as was long since proved. It lessens the exhalation of the waste carbonic acid, keeps the blood with an excess of carbonic acid which is itself a further anæsthetic, and in the course of a few weeks the beer comes to supplant the appetite for food, and you find her trying to live upon it instead of upon digestible food material, of which they can make blood and flesh, and they are affected a hundred times more injuriously than they would have been if they had not taken a drop of the beverage. I mention these points simply as illustrations. Step by step the progress of science has nullified every theory on which the physician administers alcohol. I entered on the stage of action when alcohol was supposed to strengthen and to nourish, it soon came to be proved that it did neither; and as to protecting from cold, or warming, it came also to be proved by actual experience that the more man

is exposed to a low temperature the more necessary it is for him to abstain. Hence it seems to be positively necessary that if you are going to start a mission to the North Pole the exclusion of alcohol must be an absolute law. The next step in the progress of this matter was the assumption that it promoted digestion and helped recovery in cases of sickness. That has been demonstrated to be a fallacy. Its alleged warming tendency has been tested and proved to be a myth. Step by step, every single position taken has been disproved, until it is narrowed down to this—where it now hangs, at least, in my country—that very few give alcohol except in those acute diseases where it is supposed there is danger from extreme weakness. In typhoid fever and other diseases where the heart is weak and the circulation feeble, then alcohol is resorted to, but under the impression that it is a tonic, and that the weaker the patient the larger should be the dose, to prop up the circulation. I have seen the experiment tested again and again with my finger upon the pulse, watching the patient at intervals, and I have never yet found any evidence that alcohol increased the force of the heart one iota. But what is the result of absolute test? Your own countrymen two or three years ago instituted a series of experiments to detect what difference there might be in different alcohols upon the action of the heart, and the result of those careful experiments was that, no matter what kind of alcohol—because there are several kinds—there was no essential difference in their influence upon the heart. But this also was discovered. The experiments showed that just in proportion to the amount of alcohol mingled with the blood—in other words, just in proportion to the amount taken—just in the same proportion the heart's force was diminished, and the amount of blood delivered from the heart was diminished, and at no stage increased, from the beginning to the end. At no stage was there increased power, but a diminution of power, until, as the alcohol was increased, the heart's action stopped in paralysis. So, too,

my own countryman, Professor Martin, took the dog, and in his experiments having every requisite that science can invent to ensure accuracy, to know exactly the amount of alcohol in the blood at each successive stage of increase, from the slightest to the full amount that was fatal to the heart's action, the test proved just the same, that in exact proportion to the amount of alcohol added the power was diminished, and that diminution was arrived at in a very marked degree by mixing only two and a half parts of alcohol to 10,000 of the blood—that is, estimating a certain quantity of blood in the average man, it would require the presence of half an ounce of alcohol to a good ordinary adult man, absorbed and diffused in the blood, to be sufficient according to those experiments to make a very marked and decided diminution in the cardiac power and in efficiency in circulating the blood, thereby showing as clearly as possible that, instead of being a cardiac tonic, it is an absolute cardiac paralyser; and his results were that simple increase in the relative proportion of the blood, as in the other, stopped the heart in diastole—utter paralysis. And even before these experiments the late Professor Anstie, who investigated these narcotics, anæsthetics, and stimulants, and wrote valuable works upon them, in one of the last editions of his works said that he had by his own investigations arrived at the conclusion, and said that it must be conceded from all experiments and observation, that instead of there being a stage at which alcohol produced an increased action of the heart, the paralyzing coming afterwards, that apparent excitement and exhilaration was only the first step in the stage of paralysis. Hence I assume that alcohol neither strengthens nor nourishes, nor sustains the heart's action, but diminishes it. You will see, that Dr. Parkes, one of your own countrymen, demonstrated, by his figures, that the heart under the influence of alcohol increases the amount of work done sufficient to be equivalent to lifting a ton weight a certain height in a day. He figured

it all out mathematically. Pray let me ask you to look critically at those figures. They are founded entirely on the fact that under the influence of alcohol the heart is increased in the frequency of its beats by a certain number in a minute. He has taken as the basis of his figures that because the heart acts four or five times a minute faster on the average under the influence of alcohol, it does so much more work. Now, if mere frequency were a cause of more work, the basis would be right, but does not every medical man I address know that, instead of that being a proper foundation, the more weak the heart gets as a rule, the more frequent its beats, that instead of increased contractions of the heart being a measure of the efficiency, the power, and the amount of work done, it is rather a pathological indication that its power is diminished, and this is in direct accordance with the results of other observation. Instead of it proving the heart does more work it simply proves that its physiological power is disturbed, and unquestionably the paralyzing influence upon the vasa motor nerves, diminishing the circulation in the capillaries presents a barrier which is the immediate prompter to the heart acting to try to overcome the obstacle, and if he could have done as Martin and the other experimenters did—measure the actual amount of the delivery of blood from the heart so as to measure its power—he would have found that instead of doing more work—for the work is to force the circulation—it does less. Its quickening is an evidence of its embarrassment. I have trespassed upon you too long. It is an old theme with me, and I could talk till to-morrow upon it, but I cannot stop without saying one thing. Early—very early—in my advocacy of the abandonment of alcohol I found the medical profession presented the strongest barrier to the victory over alcohol that there was in Christendom. You may preach your morality. You may figure your poor-houses filled with the products and the victims of alcohol. You may bring out your State prisons and empty them

and see how many are sent there under the influence of alcohol. You may do all this again and again, but while your medical advisers go to your fire-side and educate your children by their very language into the belief in alcohol, that every fainting is to be propped up by it, and every cold is to be mitigated by it everywhere, that it is the alcohol, the one agent that is to cure all the ills that ever sprang from the box of Pandora—as long as this is done by the medical profession it is in vain that you teach simply morality. The medical profession must face this matter, and accept its responsibility, and act upon that responsibility, and they must be the educators that are to teach the people, that instead of wine, and beer, and ale, and whisky being necessary for man, that they are simply anæsthetics and absolutely poisonous, calculated to shorten the duration of human life, and to diminish every interest that man has in this world. Thank you for listening to me. I am afraid I have trespassed upon you too long. Dr. Davis resumed his seat amidst prolonged applause.

Professor GEIKIE, of Toronto Medical College, said: I need not tell you I am very happy to be with you, or, after having listened to the long and able address of Dr. Nathan S. Davis, that it would be foolish to inflict another speech upon you. I have often read of the proceedings of your Medical Society, and I have been for years interested in the work of your National Temperance League. It is no new matter to me, for, like Dr. Davis, I am happy to be able to say, though I do not like to speak of anything personal, that I have found it a very great advantage to me during my entire life to let alcoholic drinks of every kind absolutely alone. Nobody can have enjoyed better health than I have done. I do not speak of having done this as illustrating the practice of any special virtue, but simply as a matter of fact. I have been comfortable without alcohol, and I am sure I should have been very uncomfortable with it, and what is true in my case would, I know, be true in the case of many others. Many gentlemen do not endorse the views so

ably laid before the meeting by Dr. Davis. Some medical men do not go quite so far. For my own part, while I say amen to a very great deal of what he has said, I do think that alcohol has still a place. But what is that place? Not before the breakfast table, not at breakfast, not at dinner, not at tea, not for cold, not for heat, but on the druggist's shelf. There are circumstances rendering alcohol now and then desirable, but I have said to my class repeatedly, "Do not trust to alcohol as a strength-giver." I have said, "Use it now and then, if you like, as you use the bellows to kindle a fire which is, perhaps, in danger of going out, and when it is required use it, but when the use is over for which you had recourse to it—stop it." I am not going into the scientific matter at present. Do healthy people need alcohol—men, women, and children? Trust me when I say emphatically "No." That has been demonstrated over and over again. Then, is it true that thousands are using it constantly to their detriment? The answer to that question is "Yes." Is it true that it is what has been called "the Devil in solution"? It is a capital name to have called it, and it is true. Is it true that this devil in solution, like other devils not in solution, has the power of entering into the man and getting its coils around him, till while at first the man took a very little of the devil, he becomes entirely by-and-bye to be possessed of the devil? If that be true, Mr. President, the less of the devil we take in solution the better. Can a man who begins drinking say, "I know that I will stop at a certain point?" He cannot. Some men can stop, but a great many cannot, and drink possesses that peculiar power which creates an appetite for itself, and this is the curse of drink. Let us, then, on that account abstain from it. Medical men have great influence, and it is their bounden duty to take the right side on that and on every other question. It is a frightful responsibility that medical men assume when they by example or precept are the means of influencing a young man or a young woman to drink, for the time

may come when they will drink to excess and become absolute drunkards, whereas, if they had only opened their mouths by way of caution, a life, and it may be a soul, might have been saved. Let a medical man use his influence for temperance. Let him do it as a solemn duty to his race and to his God, and he will never have cause to regret it. Some persons may say, and they do, "Would you recommend us to let alone our glass of beer? What harm does it do to us? Has it ever done me any harm?" I reply, "Persons who do not stop at one glass or ten quote your example in justification of their own excess." Now, gentlemen, is it not the strongest argument—I think it is—that if we are men, if we are women, if we have hearts at all, we are bound to say, "Is it possible that my denying myself is going to affect others for good?" Yes, it is possible—temporally and eternally. Then, by everything that is good, and grand, and manlike, and Godlike, let us take the principle of self-denial and carry it out in the matter of temperance.

Dr. SIMON FITCH (Nova Scotia): I must express my approval of the demand that Dr. Kerr has made that medical men everywhere should enter their protest against the use of alcoholic and fermented beverages as a tonic. I feel also very deeply the importance of his demand that American medical men should unitedly give their opinion to this effect, that whilst all intoxicating beverages are unnecessary, dangerous and pernicious, that even as a medicine, alcohol is very seldom required. I have for many years ceased to prescribe alcohol in any form except upon rare occasions. Oftentimes I have by complaisance recommended a patient to take bitter beer, porter, or ale, as a tonic, thinking usually, if taken in this way, it was less nauseous as a medicine, until a good many years ago I ordered it for a young gentleman, a man highly endowed, of high physical structure, and high intellectual organisation. I told him to take porter. I said, "Take it with luncheon and dinner, and before you go to bed take

a little;" and he said "Very well." I saw him afterwards when he was very much better, and he said he liked the medicine very well. About eighteen months after I got a message from him that he was a hopeless drunkard. He remained so, until finally he sank into a drunkard's grave. Since that I have never ordered any alcoholic or fermented beverage to be taken at discretion. One more instance. Upon returning to this country, after years of absence, as soon as I came to one of your largest cities, I sought out an old friend, with whom I had been more or less frequently in correspondence—a gentleman of my own profession who had been a fellow-student with me, and in large practice. He invited me to his house, and I was very much with him. One day I said, "Where is your wife? I have been at your house a great many times but I have never seen her." He said, "Do not ask me; she is on a visit." One Sunday evening he said to me, "You have asked me about my wife. Poor thing! she has been in a retreat three years, and I do not know that she will ever get out again." I said, "An inebriate retreat?" He said, "Yes." I said, "That is very sad. She was a beautiful woman—a charming girl when you married her." He said, "It is my own fault—I am to blame for it. She was weak while nursing, and I told her to take porter, and I gave it to her and encouraged her to take it at every meal. One Sunday afternoon she asked me to walk out with her in the suburbs. She clasped my arm, and said, 'I am a drunkard—your porter has made a drunkard of me.' I was very much astonished, but in spite of my best efforts she became so violent that, for her sake as well as mine, she had to go into a retreat." She was there three years. I heard afterwards she had come out, partially cured. Since that occurrence of the young man I mentioned I have never ordered alcohol—at all events in the form that patients would know that it was alcohol. I have ordered it only as a medicine, and then as rarely as possible. As far as the general question is concerned, it has been so ably covered

by the eloquent and beautiful fluency of Dr. Davis and the following speakers, that I would only occupy one second in summing up the whole, by saying, Ditto.

Dr. BERNARD O'CONNOR: Mr. Chairman and gentlemen,—I was quite unprepared to make any remarks upon this occasion, and it was a surprise to me when I was requested to address you. Perhaps my greatest claim to do so is that I have never ordered alcohol for any patient during my fourteen years' practice, and my experience at the Consumption Hospital to which I have been attached for some years has been that consumptive patients progress very much more favourably with the absence of any alcoholic liquid than they do when alcohol is administered. I have had many opportunities of comparing the results of non-alcoholic beverages towards evening with those directly traced to the alcoholic solutions which are administered in the later part of the day to consumptive patients, and the result of my observations has been that alcohol simply increases the night's perspiration, it increases the night's cough, and leaves the patient jaded about six or seven in the morning. My own personal observation has been to this extent, that if a man wants to do any hard work, if a man is kept up late at night, more particularly exercising his brain, if he wants to do any hard work with satisfaction to himself, he should never look at alcohol. The man who takes what are called moderate doses of strong drink is in the position of a jaded horse. We all know how you can get the jaded horse to go on a few steps more as the result of a sound thrashing. The man who takes stimulants is the same. You can urge him on for a few moments, but the following day he is broken down. Dr. Davis has well described the initial effect of alcoholic drinks. A sort of anæsthetic condition is induced, and the subject of the anæsthesia is unconscious of the direct results. It is not that beneficial results follow to the patient, but the patient is made unconscious by the anæsthetic results. A good deal

might be said, Mr. Chairman, in favour of total abstinence. A good deal might be said about moderation in the use of strong drink, but I am afraid, sir, that we have not much time at our disposal. I simply endorse all that has been said. I will not modify in any way, but endorse all that has been said by Dr. Davis, of Chicago. I am sure that if time had allowed Dr. Davis, he could, and he would, have enlarged upon what he told us. I firmly believe that the bad results of alcohol show themselves in many spheres and in many branches of life, and I fully endorse what Dr. Davis has said with respect to the influence which women can exercise, if they will, in instilling in the minds of children the belief in temperance under every form. I would call upon my professional brethren, and more particularly those who have charge of the out-patient department of hospitals, and who have large family practice, to be a little more careful than they appear to be in the administration of alcohol.

Dr. RIDGE, secretary of the Medical Temperance Association, said: The honour that has been allowed to me of speaking to you this morning I appreciate, because by the permission of the League you have had distributed to you papers containing information as to the Medical Temperance Association, and read at one of their meetings, urging the claims of that Association, and it is rather for the sake of that Association than anything else that I wish to say a word or two in order that you might make my acquaintance and be able to speak to me afterwards and say that you wish to join the Association. I feel more and more the necessity of the example of medical men being in favour of total abstinence. Your influence is greater in many ways than that of any other class in the community, and so long as there are prevalent the ideas about alcohol which now exist, so long we may calculate upon the existence of

this evil of intemperance which we all deplore. We must go to the root of the matter. We must teach men to abstain from all narcotics, because this is but one of a class. If we teach men to take a little chloroform, or recommend a little ether in the same way that we have recommended persons to take alcohol we should have just the same evil from those drugs as we have from this one. I might have added opium, which is a more palpable evil. We know that the evils of opium are prevalent, and no one advises excess in any one of these things. Therefore our course is plain. I should have liked to have said a few words in confirmation of Dr. Davis's proposition that alcohol is nothing but a narcotic, but I will just say that one proof that alcohol is more injurious than people fancy is to be found in the fact that many people after leaving off a glass of wine a day have said to me they were astonished at the difference it has made. They had no idea that a glass of wine every day, and day after day, had such an effect as they have found it must have had by the difference of leaving it off. Only a few months ago, in a village about three miles from Enfield, there was an old lady of seventy-eight who had been confined to the house many months and never expected to go out again. In that village there was one solitary beershop which some time ago was closed by order of the landlord. The friends of this poor woman were in terrible fear of the consequences to her, for she could take no food but what she accompanied with beer. Instead of her dying, after a little while her appetite was so much improved that she is now able to go out in the village every day. I have great pleasure in proposing a vote of thanks to the National Temperance League for their kindness in inviting us to this splendid repast.

The motion was carried by acclamation, and the meeting was then brought to a close.

A CASE OF ALCOHOLIC PARAPLEGIA.

A Clinical Lecture delivered at the General Hospital, Birmingham, by
ROBERT SAUNDBY, M.D. Edin., *Physician to the Hospital.*

GENTLEMEN,—The subject of my lecture this morning is a married woman, aged twenty-eight, who was admitted into Ward X on February 8th, suffering from paralysis of the lower extremities. Her medical attendant, Mr. Proffitt, of Burton, has kindly furnished me with the following valuable notes of her previous history.

He writes: "I have known Mrs. Y— for about six years. During the first two years she lived in a private house, and during 1881, 1882, and 1883 her confinements were about all I had to attend her for. On May 19th, 1884, I was called to see her and her husband in the night. They had been thrown out of a trap. She was suffering from a bad sprain of the left ankle and knee, with some bruising of the calf and a rather bad scalp wound. She had then been for some time the landlady of a small public-house. The scalp wound took a month to heal, and she had a sharp attack of synovitis of the knee-joint. The ankle-joint gave a good deal of trouble, the bone becoming a good deal thickened, for which it was treated with Scott's dressing, and it would, I think, be the end of July, 1884, before she began to get about again with a limp. After a time she got well of that, but there was still a good deal of thickening and pain left. Shortly after the injury there was a great deal of contraction of the muscles of the calf, drawing up of the heel, and accompanied by considerable pain. After ceasing to attend her for the above I was called upon occasionally to prescribe, and the impression gradually forced itself on my mind that she was becoming addicted to drink. She has never, however, had an attack of delirium tremens. It was in August, 1885, that the trouble with her legs began. After a visit to the seaside she called me in, complaining of pain and of loss of power in the legs, being only able to get about

with assistance or by clinging to the furniture. Her memory was bad, her temper irritable, and she was constantly drinking spirits. She had changed a good deal in appearance, and was much wasted. From this time to the 27th of October her legs got worse, and on that date I saw her in consultation with Dr. W. Lowe, of this town. We found one leg more wasted than the other; sensation diminished in the skin in some parts, about normal in others; and great tenderness in the muscles on pressure. She could not use her legs at all, and had to be carried about in a chair. Shortly after Dr. Lowe's visit the contraction of the knee-joints came on; and her bowels, which had not given any trouble before, became very torpid, necessitating the removal of a mass of hardened fæces. *Her drinking habits continued, and were very bad.* About the time of Dr. Lowe's visit there had been some numbness and pain in one hand, and some startings and twitches in the legs. From that time she has remained about the same; if anything, a little improvement has taken place." Mr. Proffitt adds in a postscript, "From the first it seemed to me that the muscles of the anterior part of the leg and thigh were the most affected with paralysis. She could not get her toe off the ground, and she could not kick; but she could, and I think she can now, flex the leg on the thigh and use the muscles of the calf."

I will not repeat the details of the previous history as gathered by us, except to note that her previous health had been good with the exception of scarlatina and an abscess behind the ear when a child, and that she attributes the onset of the paralysis to a chill caught while staying too long in the sea at Llandudno. The next day, she says, she had pains in the feet and toes, and walked with difficulty. She never was hysterical or nervous. Menstruation stopped

after the visit to Llandudno, and did not return till ten days before admission, when she was again unwell. She was very sick for the first two months. Her father is alive, but rheumatic; her mother and all her brothers and sisters are alive and well. She tells us there has been no instance of nervous disease in her family. She has two children, who are in good health. I ought to mention that the contraction mentioned by Mr. Proffitt as occurring after the accident disappeared completely, and that before her visit to Llandudno she could walk quite well. On admission she appeared a well-developed, well-nourished young woman. She has a fair, fresh complexion, with light hair and blue eyes. She lies mostly on the right side, the knees flexed, with the feet extended. She reads and does crochet work for her amusement—both she tells us, as well as ever. Her temperature is normal; pulse 84, regular and full; respiration 20. The heart, lungs, liver, and spleen are normal. Menstruation occurred normally ten days before admission. The bladder and rectum perform their functions regularly and without pain. The urine is acid, sp. gr. 1022, contains a faint trace of albumen and a large quantity of indican, and it deposits phosphates and vaginal epithelium; the daily quantity is from forty to fifty ounces. Her intelligence and special senses appear to be unaffected. The fundus of both eyes is normal; there is no colour-blindness or loss of pupillary reflex to light. She protrudes her tongue well, but it is distinctly tremulous. Her sensation to touch and pain seems everywhere undiminished. There is some hyperæsthesia of the skin of the trunk, and great hyperæsthesia of the muscles of the lower extremities, great pain being caused by grasping the calf muscles of either leg. The spine is normal to sight and touch, and is not tender anywhere. The upper extremities are quite normal, though some time ago there was some numbness of the left hand. At present sensation, motion, and electrical reactions are quite normal.

There is no tendency to drop-wrist. The lower extremities are usually flexed and adducted, the feet, however, being always extended in the talipes equinus position. She can flex and extend the thighs upon the abdomen, and flex the legs on the thighs, but she cannot extend the legs beyond an angle of 120° , nor can this be done by employing any reasonable amount of force, while the attempts cause acute pain. In both popliteal spaces there is a mass of œdema the size of an orange. The anterior muscles of the thighs are wasted. There is no patellar reflex. The muscles of the legs are wasted, and the calf muscles are very flabby. She can extend her toes very feebly, but has no power of moving the ankle-joints, nor can they be dorsiflexed by passive movement, though they move laterally quite readily. The skin of the feet is moist with perspiration, and on their inner aspects there is a papular rash, which looks like hyperæmia of the sweat glands. She complains of alternative feelings of heat and cold in the feet. The whole of the wasted muscles show loss of faradaic contractility. Their galvanic excitability is much diminished, but not altered—that is to say, the cathodal stimulus is still greater than the anodal. The use of the constant current appeared to cause great pain. The cutaneous reflexes are all present, there is no ankle clonus, and patellar reflex, as already stated, is quite absent in both legs.

This patient is clearly suffering from atrophic spastic paralysis of the lower extremities; but we must go a step further, and inquire what is the pathology of the disease—what is the seat of the lesion, and what is its nature. The wasting and loss of electrical reactions of the muscles, with the absence of patellar reflex, are the great features of the case, and these enable us at once to exclude hysteria, which may present a perfect picture of ordinary spastic paraplegia. There is also absolute want of any evidence of hysteria in the history or manner of the patient. The distribution of the paralysis in the lower ex-

trémities, and the absence of any cerebral symptoms justify us in looking lower than the encephalon for the seat of the lesion. Spinal meningitis or a transverse lesion of the cord would cause pain, anæsthesia, bladder, or rectum troubles, or bedsores, none of which are present. If it is a spinal affection, it must be what is called a systemic lesion, picking out and attacking certain anatomical elements only of the cord. A lesion of the posterior columns does not at all fit the case, as we should not expect to find wasting, paralysis, loss of electrical reaction in the muscles, or rigidity of joints; while we might expect girdle pain, loss of pupillary reflex, and some anæsthesia. But it is not so easy to dismiss the suggestion that the lesion may be seated in the anterior horns of grey matter, extending to the adjacent white columns. Acute anterior poliomyelitis is familiar to you as the cause of the essential paralysis of children, but the same disease occurs sometimes, though not nearly so frequently, in adults. We know that it is characterised by paralysis, rapid wasting of muscles, loss of electrical contractility, followed by contractions and loss of tendon reflexes. But before we decide to accept this explanation, I would like to sketch for you the clinical picture of alcoholic paralysis, as it has been described by recent writers, and which, perhaps, does not find a place in the text-books you have read.

The earliest account of alcoholic paralysis, according to Dr. Dreschfeld, was by Dr. Jackson, of Boston, in 1822, but the first European writer on the subject was Dr. Magnus Huss, of Stockholm, in 1849. Later on, Lancereaux and Leudet in France, and Wilks in England, recognised and wrote upon this disorder. Dr. Wilks mentions it in his "Lectures on Diseases of the Nervous System," published in 1878. Within the last few years a good many cases have been published, and much has been learnt respecting its clinical history and pathology from the writings of Glynn, Broadbent, Déjérine, Hun, Dreschfeld, and others. It is also described in Dr. Ross's recent "Hand-

book of the Diseases of the Nervous System" (J. and A. Churchill, 1886), and it is now established as a form of paralysis, with definite clinical history, symptoms, and morbid anatomy.

Alcoholic paralysis occurs chiefly, but not always, in females, and according to Charcot (though I think this is doubtful) only in those with neuropathic tendencies—of course, too, only in those who indulge in immoderate and prolonged abuse of alcohol. Its onset is gradual, commencing with pains in the legs and some loss of power. The patient walks with uncertain gait, using a stick or helping herself by the furniture, and in this stage there is a strong resemblance to locomotor ataxia, which is strengthened by the loss of tendon reflexes. There is usually some anæsthesia or hyperæsthesia, and a very marked symptom is *hyperæsthesia of the muscular masses*. The paralysis affects chiefly the extensors, and is followed by wasting and loss of electrical contractility, with, we are told, perversion of the normal galvanic excitability, the anodal stimulus equalling or exceeding that of the kathode. Vaso-motor disturbances, œdema cutaneous eruptions, and sensations of heat or cold are often present in the affected limbs. The upper extremities may be attacked, the earlier signs being numbness and a tendency to drop-wrist. The researches of Déjérine and Moeli have proved that the brain and spinal cord are intact, the lesion being seated in the peripheral nerves. Up to quite recently this lesion was said to be what is called Wallerian degeneration, named after a former distinguished teacher of this school. It is identical with the changes seen in the peripheral part of a nerve two months after it has been divided. These are disappearance of the axis cylinders and breaking up of the myelin or medullary sheath, which runs together to form globules, the outline of the nerve tubes becoming irregular or moniliform. Recently M. Gombault has described the primary lesion of the nerve as an inflammation of the myelin, which becomes granular with its nuclei increased, while the axis cylinder re-

mains intact. To this lesion he gives the name of "periaxial segmentary neuritis." The Wallerian degeneration occurs as a result of this lesion.

It will be at once admitted that our case presents in most particulars a striking resemblance to this description. But there are three points in which it does not altogether conform, and I must not omit to point these out to you. You will recollect that our patient ascribes her illness to a chill caught while bathing. I do not think we can accept this statement as complete evidence, but it must go for what it is worth. In the second place, she speaks of the shock as occurring suddenly, and though Mr. Proffitt's account shows that the loss of power was gradual, yet she fixes a very precise date to the occurrence of the first symptoms in a manner that does not agree with the usual mode of onset as described by writers on alcoholic paralysis. Lastly, we have contractures and rigidity of the knees and ankles. It is admitted by some writers that contractures may occur, but they are very exceptional, and, as a general rule, their presence should make you hesitate to accept a diagnosis of peripheral paralysis.

All modern writers speak of the reaction of degeneration as present. By this they mean that the contraction obtained on stimulating the muscle with the galvanic current is greater on anodal (positive pole) than on kathodal (negative pole) closure, or, as they express it, A.C.C. is greater than K.C.C. I tested this point very carefully, and found that, while galvanic excitability was certainly diminished, no qualitative change existed; and I would take this opportunity of telling you that in my experience this much-talked-of sign is neither certain nor trustworthy. The great pain complained of from the use of the galvanic current was probably due to the hyperæsthesia of the muscles giving rise to painful spasms when contracting; the faradaic current, which is ordinarily much more painful, failing to excite the muscles at all, caused no complaint.

After duly weighing all the evidence,

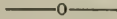
and allowing full consideration to the facts just stated, I have concluded that a diagnosis of alcoholic paralysis is the most consistent and most tenable. My experience of this disease is limited to two other cases. One I saw only once in consultation with my friend Dr. Drummond of this town. She was an old woman living by herself as landlady of a small beer-house. She had an enlarged liver and bronchitis, and, I heard, died not long afterwards. The other was a young woman who was admitted into this hospital under my care, and who made a very speedy recovery when removed from all possibility of procuring alcohol. Neither of them afford any information which can throw light upon the present case.

I would draw your special attention to the diagnostic significance of the painfulness or hyperæsthesia of the muscular masses. I cannot assert that this symptom is absolute proof of alcoholism, but it is of the highest value in directing your suspicions in that direction. The vaso-motor disturbances, sweating œdema, &c., are also of importance, and are well marked in this case. The presence of a large amount of indican in the urine is not of special importance. We look for it usually, and find it frequently, in association with torpid action with the bowels. Indican is derived by oxidation from indol, a product of the pancreatic digestion of albumen. It is absorbed from the intestine into the blood, and excreted by the kidneys.

I can only speak very doubtfully about the prognosis. Between such happy examples as Dr. Wilks gives, such as was my patient of last year, and those fatal cases recorded by Dr. Broadbent, there must be a long intermediate series. I consider the presence of contractures to be most serious in view of the prospect of our patient regaining the use of her limbs. We have tried without success to remedy the faulty position by extension and massage. Besides these means, our treatment has included galvanism and, for internal medication, strychnia in gradually increasing doses. She has shown great tolerance for this drug,

as she is now taking twenty minims of solution of strychnia three times a day without inconvenience, and I must add without much benefit, although

her general appearance has considerably improved since admission.—*Lancet*, August 7, 1886.



IS TOTAL ABSTINENCE REASONABLE? *

By J. JAMES RIDGE, M.D., B.S., B.A., B.Sc., *Physician to the London Temperance Hospital, Hon. Sec. of the British Medical Temperance Association, &c.*

Is total abstinence reasonable? Many people think it is not, except for children and drunkards. They consider it folly to expect adult men and women to refuse to drink alcoholic liquors. They regard total abstinences as fools and fanatics, and often call them so. Others look upon them with a sort of pity, as amiable enthusiasts, who are sacrificing their health for the sake of a few worthless drunkards. If these are right, we are wrong, and if total abstinence is to prevail it is absolutely necessary to convince all candid and educated minds that it is more reasonable to abstain than to partake; that although it may involve a certain amount of self-denial to refuse beverages, some of which are pleasant to the taste, yet that this self-denial is part of the necessary self-control which all must exercise who would enjoy to the full, and as long as possible, a sound mind in a sound body.

I believe that we are in a position to affirm and to prove that total abstinence is the only reasonable course for rational men and women—for those who are guided by reason, and not by appetite or fashion. I shall endeavour to state the arguments from a scientific point of view why human beings should abstain, and to explain some of the apparent reasons why many do not. It is not necessary to make a long and arduous search for new facts. I contend that we already possess quite sufficient knowledge to shift the charge of

folly to other shoulders. We do not require new facts, but the proper appreciation of old ones, though doubtless there are hundreds and thousands of intelligent men and women to whom our old facts are entirely unknown, and who have been condemning us through ignorance. To all such I especially appeal.

I take my stand on the following indictment of alcohol:—That it is a narcotic drug, which progressively paralyses the mental faculties and nervous system from above downwards; that it does so in proportion to its quantity by means of its chemical action on living nerve-cells; that it exercises a similar influence on cell-protoplasm throughout the body; that it thus prevents the healthy, natural, performance of many functions, and gives rise to degeneration of various tissues, in consequence of which health is impaired and life shortened.

That alcohol is a narcotic in large doses is universally admitted. Any man can be made totally insensible by alcohol; it is only needful to administer enough—"Ye have stricken me and I felt it not." But between this extreme and the temporary relief from some pain or uneasy sensation by means of a teaspoonful of brandy, there is a difference of degree, but not a difference of kind. It is, indeed, beyond question, nor do I think that anyone has ever questioned it, that these small quantities of alcohol have an anæsthetic or sensation-deadening influence upon irritated nerves. But this fact is full of significance. It clearly shows that to nervous tissue, at all events in a diseased condition,

* Read at the Croydon Temperance Congress, May, 1886.

alcohol is not a stimulant, but a narcotic.

Does the same hold good for healthy nerves? This, again, is not to be settled by opinions, however eminent, nor by fancies, however sincere; it must be settled by experiment, and has thereby been settled. It has been demonstrated that shortly after taking from one to three or four teaspoonfuls of alcohol the nerves of touch (or common sensation), the nerves of some special senses, namely, those of sight and hearing, and the sixth sense, the muscular sensibility, by which we judge of the weight of objects, are all of them more or less benumbed. This numbing or paralyzing of the senses is progressive, and is not preceded by any increase of their power. In other words, alcohol, as soon as it is capable of producing any recognizable change in the nervous tissue concerned with sensation and perception, lessens its functional activity.

The same holds good with regard to the motor side of the nervous system. It has been shown that speed of transition of motor impulses is decidedly lessened. It takes longer for the orders from the brain to reach the voluntary muscles and cause them to contract. When they do contract the dynamometer shows that, other things being equal, the muscle affected by alcohol is unable to contract with as great power as one that is not under its influence.

Observation has also clearly proved that not only is the cerebral and spinal nervous system progressively paralysed by alcohol, but that the involuntary, or so-called sympathetic nervous system, is acted on in a similar way. The tone of the blood-vessels is maintained by the influence of these nerves, and where these blood-vessels can be watched, as in the retina of the eye, it has been seen that a very small dose of alcohol relaxes or dilates them, a condition which is not preceded by any increased contraction. Later on, the relaxation of the blood-vessels is a matter of notoriety, but it has not yet been as clearly recognised as it ought to be that this effect com-

mences with the least quantity which can produce any noticeable effect at all.

How is this effect produced? It has been demonstrated that it is by means of its action on the soft living particles of germinal matter, called protoplasm, from which all the tissues of living things, whether animal or vegetable, are produced. Professor Claude Bernard showed that vegetable cells could be stagnated or sent to sleep by chloroform and ether, just as animal brain-cells are. But I have shown that not only can seeds and young plants be killed or temporarily sent to sleep by alcohol, but that their growth can be retarded by amounts of alcohol short of fatal doses, and in direct proportion to the quantity of alcohol present. It would be incredible, if it were not capable of easy demonstration, what small quantities of alcohol are able to exert a deleterious influence. Those who scout the idea that small doses of alcohol can be injurious are probably ignorant of the fact that one drop of alcohol in a whole imperial pint of water (and even more) is able to retard the growth of seeds. It is possible, indeed, to arrange for seeds to grow with all degrees of vigour by regulating the proportion of alcohol in contact with them. Infinitesimal quantities do not stimulate growth and vital action, they always retard and injure it. There is no such thing as innocent moderation in this respect.

Common sense leads us to conclude that the injury done to the special senses by small doses of alcohol is preceded by lesser effects of a similar kind, which could be demonstrated by more delicate tests. In other words, the injury that is recognised is comparatively coarse, and is but the culmination of much preceding action, which is at present beyond our powers of ocular demonstration.

But though we may be unable to recognise the immediately injurious effects of infinitesimal quantities of alcohol on the complex human body, we have evidence of another kind that doses regarded as really moderate—I do not say by the public, but even by physiologists—do exert an injurious

influence when the body is exposed to them, not once or twice, but every day for months and years. In this case the blood is perhaps never entirely free from alcohol, and though it may be impossible by microscope or balance to show the degeneration in this organ or that, specially the result of alcohol, yet a sane mind must be convinced that some change or other has been produced when it is shown that the average duration of life of moderately alcoholised human beings is shorter than that of total abstainers, other things being equal. I will not give here the experience of Life Assurance Companies, which proves this, for these statistics will be given in another paper. It is enough that the fact is beyond dispute. The experience of Benefit Societies (also to be given hereafter) likewise shows that the use of alcohol predisposes to disease, as well as produces it. Hence the presumption is as certain as the nature of the case permits that alcohol is injurious to the human body in proportion to the amount taken.

I do not, however, pretend to say how much injury a few drops is able to do, nor that a small quantity will cause equal harm to all persons, and at all times; but I do say that he who would preserve his tissues from premature degeneration, and maintain his powers of body and mind at the highest condition possible to him, must, as one (and but one) of the conditions of such natural health, totally abstain from alcoholic liquors. Just as he will avoid once-breathed air as far as possible; just as he will get as far as he can from air contaminated (even slightly) with sewer gas, and refuse water from a well even suspected to contain sewage, so he will refuse the "hot and rebellious liquors" which tend to produce disease and shorten life.

It should not be forgotten that the action of alcohol is two-fold. It has a special influence upon the nervous system, and it has a chemical influence on every cell and fibre with which it comes into contact.

With regard to the action of alcohol on the brain and nerves, it produces

progressive paralysis of the judgment on the one side (the sensory), and of the will, or voluntary self-control on the other (the motor). The narcotic influence is exercised first upon the most sensitive and most recently developed centres. These being weakened, lower centres, namely, those presiding over the production of ideas and speech, over emotions and passions, are allowed to act more automatically, and so sometimes, for a time, act more tumultuously and energetically. These lower centres are thus exposed to whatever impulse or temptation may chance to occur; and, since impulses to evil are much more common, and more easy to obey, than impulses to good, it is not surprising that individuals who have thus begun to weaken their judgment and self-control are more easily led into sin. Men say and do, after they have had a glass of wine or beer, what they would not have said or done without it. The tongue is let loose, conversation is brisker—whether for good or evil depends upon circumstances, which the man himself is less able to overrule. The use of alcohol is, then, incompatible with complete and perfect Temperance, or self-control. It is an anti-Temperance drug; something, not ourselves, making for unrighteousness. Not that some who have taken a little alcohol may not still have more self-control—at all events in some directions—than many who are perfectly sober. But for all that alcohol does absolutely diminish the virtue of temperance or power of self-control, and is thus a potent factor in promoting all kinds of sin. It reduces the individual in the scale of civilisation, throwing him in a few minutes some centuries back along the upward course of progress through which the race has passed. Some individuals are further advanced or more civilised than others, so also are some nations; but alcohol is a hindrance to progress in both cases, even though favourable circumstances may prevent retrogression. The advancing nation will advance more quickly without it; the retrograding nation will deteriorate and perish more quickly with it. On this ground alone every

philanthropist and, *a fortiori*, every Christian, ought to set his face like a flint against the use of this seductive drug.

But it may be said that persons get so used to a certain daily ration of alcohol that it loses its brain-bewildering effect. It becomes "tolerated." To this I reply—

1. Experiment shows that the sensory nerves of the habitual moderate drinker are made less sensitive by small doses as well as those of the abstainer.

2. That the power of drinking alcohol without immediate confusion of mind does not prove that no injury is done, while it leads to the dangerous conclusion that more can be taken with impunity.

3. If a certain dose of alcohol is unable to produce its usual, and what may be called its natural, effects on a human being, it is perfectly clear that the constant moderate use of alcohol has altered him. In other words, habitual moderation is not harmless; it does not leave the man in the normal condition in which he was before. He ought to be very sensitive to alcohol, but he is not, and it is beyond belief that he is not worse for the change.

4. Even if alcohol is thus tolerated by the nervous system, the chemical degeneration-producing influences are unimpaired, and inevitably lead, sooner or later, to premature decay and death. The fact that some toppers live to old age is no proof to the contrary. As a rule such men have exceptional powers of excretion, and the reduction by drink of the average duration of life is a fact which needs some explanation, and may reasonably be accounted for thus.

5. Many individuals who, while taking alcohol very moderately every day, have been so unconscious of any bad effect that they have strenuously denied it, have, after a short period of abstinence, observed such an improvement in their mental and physical powers, that they have been convinced that small doses really are injurious. Hence the fact of "toleration" is no reason for regarding the moderate use of alcohol as harmless.

There will possibly be some persons who are not even yet convinced. They give as a reason why they should not abstain, that alcohol "does them good," they "feel" that it does, and they miss it so much if they do not have it. This appeal to the "feelings" it is impossible to meet directly. But I think that there must be some people not beyond the reach of the following argument. I say to such an one, "Why do you think alcohol is useful and even necessary?" "Because I feel to need it every day; I take it, and I feel all the better for it." "What do you take?" "I take a glass of good sound beer at dinner, real malt and hops." "Do you take wine or spirits!" "Wine—very seldom, it turns acid on my stomach; and spirits—never!" "Then neither wine nor spirits are necessary?" "Certainly not: I regard spirit drinking as most injurious."

Moderate drinker the second, on being similarly questioned, declares in favour of one glass of "dry sherry," or, it may be, of good old port. He decries beer as heavy and injurious, and is equally a foe to spirits.

Moderate drinker the third extols the virtues of old whisky and water, and sets his face against beer and wine.

Each of these is quite convinced he is right, and it will be found that each one feels the need and the benefit of the particular drink to which he is accustomed.

Further, it is to be observed that alcohol is not peculiar in this respect.

There are people who drink ether who have just the same craving for that, and feel it does them good.

There are others who cannot endure life without chlorodyne, chloral, or opium, in some form or other.

All these drugs have the common property of themselves creating a craving for themselves, a craving which every one who does not take the particular narcotic knows to be an entire delusion. The only thing required in order to become convinced that beer, wine, spirits, ether, chlorodyne, or opium "does me good," is to begin to take that particular one, and to con-

tinue to do so for a longer or shorter time. To this list may be added another, and here, thank God, all (or almost all) the women of England, and a considerable portion of the men, are agreed. We know that the man who cannot be happy or contented without his pipe or cigar is a miserably deluded being, who has put himself into the clutches of tobacco, and is a slave for his pains.

The ability to recognise one's self-delusion in thinking alcohol is necessary may almost be regarded as a test of sanity in its broadest sense, namely, the sane or sound mind in the sound body, and I know no surer way to open the eyes and convince the staggering reason than the calm contemplation of the deluded slaves of other narcotics, which we know, *we know* to be totally unnecessary—nay, more, to be more or less pernicious.

The argument that alcohol is a food may be summarily dismissed; for even if it were known to furnish heat or force (which it is not), or were equal in food value to sugar from which it is derived (which it cannot be), the quantity which can be taken without disturbance of function is so small as to be practically valueless.

But there is another side to this question. There are those who would urge reasons why they should not be total abstainers, and urge them in all sincerity. There are hundreds of thousands of men and women who have tried total abstinence, and have had (as they say) to give it up because it did not agree with them. It is with this practical issue that I desire to deal rather than with any theoretical notions in favour of alcohol. A large proportion of these lapsed ones would give as the sole authority for the assertion that they cannot be total abstainers, the dictum of some doctor or other. Sooner or later, after commencing to abstain, they have become ill; they have consulted a doctor, and have been impressively informed that total abstinence does not agree with their constitution, that they will die if they do not give it up, &c. All this is very terrible to the young and nervous ab-

stainer, to those also who may have been looking back with regret to the Egyptian flesh-pots, or only desire a decent excuse to escape from the sneers or ridicule of Mrs. Grundy. It is unfortunately too true that there are large numbers of medical men who will talk in this loose and unscientific way, and still larger numbers of the public who take it all as Gospel truth. In fact, the attitude of the profession is still (though even greater in the past) one of the greatest obstacles to the abandonment of these unnatural drinks. Even when the doctor does not bully the abstainer out of his abstinence, the fact that he orders some form of alcoholic liquor in the treatment of nearly all the diseases that flesh is heir to, is enough (to the big unthinking majority) to condemn total abstinence.

What can we say to these things? In the first place, total abstainers should take steps in every possible centre of population to establish temperance dispensaries, similar to the out-patient department of the London Temperance Hospital, to which the brow-beaten total abstainer who is told that he must "drink or die," may resort for advice, encouragement, and treatment without alcohol, to show that the statement is false. There are now more medical abstainers than there ever have been, and an institution of this sort could in most cases obtain a medical officer, old or new. Such a man, who, if he is faithful to truth, must necessarily lose a great deal of support from the drink-loving public, ought not to be asked, or expected, to attend the abstaining remainder of the population for nothing. Though less exciting than Gospel Temperance Missions, there is no better means of securing large and durable results, and such an institution may be conducted with attention to the spiritual as well as the bodily wants of the patients. Abstainers who recognise the duty of promoting total abstinence by every means in their power cannot fail to see the necessity and advantage of giving their personal support to the outspoken and trustworthy abstainer rather than

to those who will talk teetotalism to the teetotalers, and take a glass of wine with the wine merchant or non-abstainer. They cannot, of course, countenance the men who take every opportunity of recommending drink.

But I should like to demonstrate the folly of much of this medical advice. I have known cases in which people have become total abstainers once, twice, or even three times, and have afterwards become ill and been called fools for their pains by their doctor. On a further trial without this pernicious advice they have recovered without relapsing, and have lived to prove that drink was not necessary for their constitutions, as alleged, that they need not die through abstinence, and that if either the patient or the doctor was a fool, it was not the patient.

The fallacy which has deceived so many is, that any illness which occurs within twenty years of leaving off alcohol must be due to this cause. On the contrary, it is quite certain that if all the world commenced to abstain to-day some would be ill to-morrow, some next week, or next year, and so on. It is most illogical to attribute these illnesses to abstinence, unless it can be shown that illness is more prevalent among abstainers than among drinkers. But it is notorious that the very opposite is the case. Where other things are equal the drinkers of alcohol have more attacks of illness, are ill longer, and recover strength more slowly. What facts there are (not mere opinions worth nothing) go to show that alcohol produces disease, aggravates disease, and retards convalescence. Even if it were essential for recovery (and I have yet to discover such a remarkable case), there is no need that the patient should take it outside his medicine, or continue it to ward off disease, which it does not do. It must be remembered that there are many causes of disease to which the abstainer is liable as well as the drinker, and though he may resist them more easily, yet he cannot always escape. When alcohol seems to prevent minor ailments it is due either to the fact that when abstaining

the person alters his habits (*e.g.*, eats more, takes richer or sweeter food, drinks other noxious things, &c.), and so has to suffer; or it is due to the anæsthetic influence of alcohol, by which it relieves many uneasy sensations due to bad habits, though it does not remove their cause; or to a highly nervous temperament through which the abstainer becomes the prey of his own fears and morbid self-inspection; or it is due to the fact that the constant use of alcohol (or any other narcotic) so alters the system that various temporary commotions occur on abstinence, the duration of which varies in different people, but which can be cut short by a dose of alcohol, and often are thus curtailed.

The experience of prisons, of dipsomaniac institutions, of occasions when drink was unattainable, all show conclusively that the supposed necessity for drink is entirely mythical, and that all that is really required is a will (either one's own or another's) which can resist the cravings of a diseased appetite or the fancies of a morbid mind.

Others allege as a reason why they should not abstain that alcohol is necessary in temporary weakness in order to regain strength, or to maintain it when it has been regained. Growing children sometimes become weak and easily tired; "children of a larger growth" have seasons of bodily or mental depression; they do not feel "up to the mark"; the usual routine of duty becomes wearisome. In such cases, if a doctor be consulted, he will nearly always recommend alcohol in some form or other. After a time the patient recovers, and though he has had medicine, and followed many other directions of the physician, he will put the greatest faith in the drink, and continue that portion of the prescription through many a subsequent rise and fall of the health barometer. Is there no proof here of the impossibility of total abstinence? Certainly not, for the experience of multitudes of teetotalers proves beyond question that all these states of depression can be got rid of without alcohol. "But," says one, "I suffer from a weak heart."

This is a very vague complaint, and sometimes means that the heart, over-excited by flatulence or alcohol, thumps away too strongly and tumultuously; the origin of the mischief may be in the stomach or the blood. But if the heart is really weak, and the circulation sluggish—if the digestion is imperfect, and the spirits depressed—the best remedies are cold water and exercise. If a healthy man wishes to develop his strength, and to improve his “wind” for athletic sports, he must diet himself reasonably and take plenty of exercise, and one important part of the regimen is total abstinence. This, no doubt, involves self-denial—true temperance. But our drinking friends do not want advice of this kind, they want to be taught how they can continue to indulge their palates, and commit all sorts of hygienic sins, and yet escape the consequences. Nature cannot be cheated thus, but, sooner or later, will exact payment to the uttermost farthing. To increase the strength of the heart, which is a hollow muscle, we must give it more work to do, increasing exercise as we are able to bear it. This, with plain and regular diet, fresh air, good ventilation, cold water outside and in, will cure every case not dependent on organic disease. It is a matter put beyond question by accumulated experience that more work, more continuous work, with greater ease and comfort to the worker, and quicker recovery from fatigue, can be done without alcohol than with it.

To sum up, it is more reasonable to abstain from alcohol than to drink it:—

1. Because it is a narcotic drug which prevents the proper performance of the functions of the nervous system, weakens the will, warps the judgment, reduces the power of self-control over thoughts, words, and actions, and thus promotes moral evil.

2. Because it creates, in common with other narcotics, a craving or desire for itself, which, under unforeseen and unavoidable circumstances, may become irresistible.

3. Because its habitual use exposes the body to disease; leads to premature degeneration, and shortens life.

4. Because small (so-called moderate) doses have the same kind of action as large ones, and a greater effect than can be perceived at the time, especially by the unaided and alcohol-injured senses of the drinker.

5. Because alcohol hinders the due performance of work, is not able to take the place of food, and injures the body in proportion to the quantity taken.

6. Because it is capable of so altering the body by its habitual use as to seem necessary for the maintenance of ordinary health, thus giving rise to those fallacious sensations by which so many are deceived.

7. Because the assertion that alcohol is necessary for some constitutions, or under some circumstances, rests on no well-ascertained or incontrovertible facts or figures, but is a mere assertion, rendered more than doubtful by the same claim being made for other narcotics, and by the ignominious failure of false prophets of evil. Further, it is totally disproved by the experience of millions of total abstainers, of all ages, of both sexes, and under every conceivable circumstance.

8. Because the greatest feats of skill, hard work and endurance, are performed, and performed more easily, by those who are habitual total abstainers, or who become so for a time for the very purpose of steadying their nerves, and increasing their strength.

9. Because the advice of Solomon the Wise* and of the Apostle Peter†—*Nepsate*; do not drink wine of strong drink—agrees with the results of experience and the latest teaching of science, and, if followed, will prevent the lessening of temperance or self-control, will diminish vice, crime, and misery, and render this world a happier and a holier place.

* Proverbs xxiii. 31, 32; and xxxi. 5, 6.

† 1 Peter v. 8.

WHAT WE KNOW ABOUT ALCOHOL.*

By NORMAN KERR, M.D., F.L.S., *President of the Society for the Study and Cure of Inebriety; Consulting Physician of the Dalrymple Home for Inebriates.*

THE great cause of Abstinent Temperance, which at first made little way, has, mainly owing to the clear and sound teaching of its earliest advocates, of recent years so rapidly advanced in public favour that many sanguine abstainers are already chanting a pæan of triumph at the approaching final success of so glorious a reformation. To the sober eye of the scientific observer the end, however, is not yet, nor is it within sight. A long and arduous struggle awaits us.

At this juncture, it is not our opponents whom we have most to fear. Science, experience, and common sense have pretty conclusively established the claims of the practice of abstinence from all intoxicating drinks to the consideration and adoption of thoughtful and well-disposed mankind. Our weakness lies within our own ranks. Multitudes of converts who have been won over to abstinence by impassioned appeals to their feelings, regarding intemperance but as a moral evil to be remedied by enthusiasm, have contented themselves with a superficial knowledge of the subject, and have not thought it worth while to acquaint themselves with the facts relating to the physical aspect of this, the monster mischief of our day and generation.

Not a few fervid yet ill-informed converts, heedless or ignorant of the truth that alcohol is a potent narcotic, before the subtle power of which the finest intellects, the warmest hearts, the most unselfish spirits have gone down, have oracularly insisted that only the badly disposed, the evil-loving, become sots; that, in the words of the poet—

“’Tis but the fool who loves excess; hast thou a drunken soul?

Thy bane is in thy shallow skull, not in my silver bowl.”

In the height of their ardour they have denounced alcohol as but an artificial production, in all proportions and in every environment essentially bad, as only evil and that continually, as a deadly destroyer in all quantities and circumstances, alike in health and in disease. By such iconoclasts our old favourite, refreshing, and healthful ginger beer is condemned as a poisonous beverage. On the other hand, unacquaintance with the truth concerning alcohol has led to some extraordinary eccentricities of moral effort, and of attempted legislation against intemperance. For example, in the land of lands where prohibition has been found to be the most effectual method of legislation, an influential temperance society has proposed a Bill providing for a high license (as if the wealth of the seller could change the nature of the article sold), and placing stricter limitations on the sale of spirits, than on the sale of fermented wines and beers (as if intoxicating drinks were not all intoxicating).

What do we know about intoxicants? Let us interrogate science. Science is simply knowledge. She will tell us the exact truth, unbiassed by any considerations as to the kind of answer we would like to have from her.

We know from chemical science that all our inebriating liquors owe the favour with which they are regarded by the sons and daughters of men mainly to a certain active powerful ingredient, called ALCOHOL. This potent and essential constituent of our intoxicating liquids is a narcotic poison which irritates and inflames almost every bodily organ, benumbs, dulls, and paralyses our brain and

* Read at the Temperance Congress, held at Croydon, 4th May, 1886.

nerve centres. We have no knowledge, we can have no knowledge (the conditions of proof being impossible), of the effect of very minute quantities of any deleterious substance on the human economy. We designate alcohol a poison, then, in the same manner as we so designate chloroform or ether. If they are poisons, so is it. If they are not, it is not. Alcohol is, moreover, a poison very similar in its action to both chloroform and ether.

We know, further, from chemical science that, though there are many alcohols, the differences in their operation are exceedingly small, and are, especially in this country, practically unimportant. The alcohol of the oldest, richest, and rarest fermented wine is as truly a poison as is the alcohol of the cheapest and commonest rum, whisky, gin, or brandy.

We know from physiology, that department of science the province of which is the elucidation of natural function, that in the healthy human system alcohol has no place. The masterpiece of the Great Architect, man made in His divine image, stands before the universe—

"A piece of perfect workmanship, nobly planned,"

in every respect fitted for his lofty mission on earth, in greater part composed of water, but with no drop of alcohol either in his body or his brain. Alcohol, in other words, is not needed as an article of diet by the healthy.

It has been claimed that, in very small quantities, alcohol crenates the blood-corpuscles, lowers the vital heat, diminishes the excretion of carbonic dioxide, and in other ways interferes with natural function; but experiments which I have myself carried on, with in some instances opposing results, have taught me that all dogmatic conclusions as to the physiological effect of doses within a certain limit, must be regarded as incapable of demonstration.

When we observe the results of larger doses, we note an unmistakable train of abnormal symptoms. We see that the tendency of intoxicating drink, in quantities a long way short

of what is usually called "drunkenness," and well within what is generally regarded as "moderate drinking," is to vitiate the blood, retard the elimination of carbonic dioxide, irritate the stomach, harden the liver, soften the brain, overtax the heart, dull the senses, dim the intellect, confuse the thought, impair the judgment, and deaden the "still, small voice within." The system is apt, too, to be robbed of a portion of that vital heat which is indispensable to health and comfort. By these and other physical degradations, such as alcoholic fatty degeneration of various organs and tissues, the frame is on the one hand more liable to be attacked by various diseases, and on the other is rendered less able to successfully withstand the brunt of, and survive the exhaustion consequent on, such attacks. Truly did the Æsculapian poet of health sing, more than a century ago, that—

"Wine unmixed, and all
The gluey floods that from the vexed abyss
Of fermentations spring; with spirit fraught,
And furious with intoxicating fire;
Retard concoction, and preserve unthaw'd
Th'embodied mass."

Intoxicating drinks are so lethal that a hecatomb of victims, not a few of these men highly honoured in the Church, in the camp, in the State, are prematurely slain in our midst every year, killed by strong drink, of whom it may truly be recorded that they were rarely, if ever, known to have been "drunk" in their lives. Drunkenness slays its thousands, intemperance its tens of thousands.

We know from the absolutely impartial and unprejudiced statistics of reliable insurance companies that there is some 25 per cent. less actual mortality in proportion to the expectancy, among the abstaining than among the non-abstaining insured; and, from the records of benefit societies, that the ratio of disease bears much the same proportion in clubs composed of teetotalers as compared with clubs composed of drinkers.

Still more terrible is the knowledge that, in numberless instances, both pronounced "drunkenness," and in-

temperate living considerably short of this, are liable to stamp on the very being of the offspring, even before these are ushered into the world, an inherited proclivity to excess in strong drink. We know that alcoholic hereditude is with us to-day an appalling fact. Immortal souls are launched upon the sea of life weighed down with the fetters of inherited alcoholism. Such handicapped competitors in the race for heaven can abstain, and can drink to excess, but to drink in "moderation" is beyond their power.

We know that, though alcohol is found in infinitesimal proportion under natural conditions, intoxicating beverages are not creations of the Deity. They are, like a house or a steamship, manufactured articles, designed by the skill and made by the hand of man, with this specific difference—that the dwelling and the vessel are made of God's good creatures, but intoxicating drink is and can be produced only by the destruction of God's good creatures.

We do not know that alcohol is always and altogether injurious. In the arts it has its place. In therapeutics it is not without value. Though the experience of the most useful London Temperance Hospital, with a mortality of not more than 5 per cent., of other hospitals conducted on similar lines, and of a number of medical men, tends to show that intoxicants are very seldom required even as a medicine, yet cases occur in which this class of drugs has rendered important service. There are few in the medical profession who prescribe less alcohol than I do, there is none who has more persistently inculcated on his professional brethren the urgency of extreme caution and precision in its prescription, and there is no practitioner who is more desirous to avoid ordering it; yet loyalty to truth compels me to declare that I have had to treat cases in which, by the same evidence as I have had of the efficacy of other drugs, an alcoholic potion has proved the only useful agent.

We know that, even when useful, alcohol is so deceptive and perilous a remedy, it can safely be administered

only with the most scrupulous care on skilful, experienced, and judicious advice.

Whatever value may be attached to alcohol as a medicinal agent affects in no degree the soundness of the foundation of the temperance movement, which is abstinence from intoxicating liquors AS BEVERAGES. With the controversy as to the nature of the various wines mentioned in the Bible, the cause of temperance has no concern. Fallible human interpretation of the sacred volume is all that is herein at stake. Nor is the Temperance Reformation at all affected by the Communion Wine Question. It is the usefulness of the Christian church which is involved in the sacramental use of intoxicating wine. All these are vexed questions, of which no solution can at all invalidate the claims of abstinence as a rule of life on the philanthropist the patriot, and the Christian.

The sum and substance of our knowledge is:—

1. The dietetic use of any intoxicating liquor is unnecessary.
2. Intoxicating drinks are dangerous articles of man's manufacture.
3. The practice of habitual abstinence from all intoxicating liquors would be greatly conducive to the health, comfort, happiness, and morality of mankind.

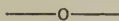
These ought to be cardinal articles of our temperance faith, that true faith which is based on accurate knowledge.

Armed with this knowledge, we can confidently appeal to every intelligent and right-minded person, to adopt the safe, healthy, joyous habit of abstaining, in their own interest as well as for the sake of those weaker brethren and sisters who are unable to resist the dread fascination of strong drink. Armed with this knowledge, with boldness can we thunder at the doors of our legislature with the demand of an awakened and indignant national conscience that proper provision be made for the treatment of the diseased inebriate, poor as well as rich; and that the plague of intemperance may be stayed, the sobriety of the weak secured, the fair fame of our fatherland

restored, by the prohibition of the common sale of those intoxicating fluids which are the most insidious and powerful disturbers of our nation's peace, the greatest defilers of our cha-

racter as a people, the strongest obstacles to our country's progress, for

"Albion the poison of the gods has drunk,
And felt the sting of monsters all her own."



THE BRITISH MEDICAL ASSOCIATION.

REPORT OF THE HABITUAL DRUNKARDS LEGISLATIVE COMMITTEE, 1886.

In presenting their annual report to the council, the committee regret that, owing to the unusual absorption of legislative attention by political affairs, no suitable opportunity has been found of laying the proposals for amended legislation for habitual drunkards before either the Ministry or the Parliament.

The committee have utilised this enforced delay, by giving a thorough consideration to the whole question, in which work they have been considerably aided by the deliberations of the Society for the Study and Cure of Inebriety, and by the published record of the experience of an additional year's operations at the Dalrymple Home for Inebriates, at Rickmansworth.

The committee, while glad to acknowledge that a certain amount of good has been done by the Habitual Drunkards Act, has been deeply impressed with the urgent need for a more considerate, complete, and efficient measure.

The Act is defective in many particulars:—

1. It will expire in three years more, unless it be renewed.

2. The entrance into a licensed retreat is rendered forbidding by the compulsory appearance of the applicant before two justices. This procedure is deterrent to both sexes, especially to females.

3. By a recent interpretation on the part of the Home Office, the two justices must be "in the Commission of Peace for the county in which the attestation is made." This renders the securing of the necessary two justices more difficult than before, as it frequently happened that a justice from

an adjoining county was on a visit to the justice to whom the habitual drunkard applied in the first instance. In retreats on the borders of more than one county, it has been found very difficult to obtain the presence of two justices without taking the applicant a considerable distance away, thus practically rendering patients unable to avail themselves of the provisions of the Act.

4. In the event of escape from a licensed retreat, the compulsory appearance of a patient before a justice is a penal procedure which exercises an untoward influence on the after-treatment in the retreat.

5. There is a want of power over correspondence and remittances forwarded to patients while under treatment, the possession of money being a powerful temptation to escape for the purpose of procuring liquor.

6. There is no authority in the Act for the appointment of a deputy in the absence of the superintendent from illness or other causes.

7. There is a total absence of provision for the cure and control of the destitute habitual drunkard, and for habitual drunkards in all stations in life, who are unwilling to apply for admission into a retreat.

In the United States, and in some of our own colonies, there is better and more effective legislation. In Victoria, for example, a permanent Act, passed in 1872, provides for voluntary application by a patient to one justice only, who has power to authorise the apprehension and the conveyance of the applicant to a retreat. Any relation or friend of an habitual drunkard may apply to a county court judge, who can summon the inebriate

to show cause against committal to a retreat. On a statutory declaration by two medical practitioners, the judge may order the inebriate's apprehension and committal to a retreat for any period not exceeding twelve months. Patients may be retaken, after having escaped, by any officer or servant belonging to the retreat, by any constable, or by any person authorised in writing by the superintendent, and be conveyed back to the retreat. Letters for patients must be enclosed in an envelope addressed to the superintendent. The superintendent may appoint a substitute to act with full powers during temporary absence.

The committee recommended that the following amendments be suggested to the Home Secretary and to the Houses of Parliament, which amendments the committee believe would greatly aid in the reformation and cure of numbers of habitual inebriates, who at present are beyond the reach of all moral and remedial influences.

1. A permanent measure instead of the present temporary Act.

2. In the case of voluntary applications for admission, attestation by one justice instead of by two justices, as at present; the signature of applicant to be attested at the house of the applicant or elsewhere.

3. The escaped patient, instead of, as at present, after recapture on a warrant, having to appear before a magistrate, to be sent back to the retreat from which he has escaped, direct; immediate notice being given to the Secretary of State of his return to the retreat.

4. Power to licensee to open all correspondence, if he should think this necessary, and to retain any money enclosures, postal orders, or cheques.

A memorandum of the amount to be handed to the patient.

5. Provision for the appointment of a deputy medical superintendent or substitute, during temporary absence of superintendent.

6. Magistrates should have power to commit well-defined cases of habitual drunkenness to a retreat, for care and control, without consent of the patient.

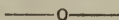
7. The Metropolitan Asylums Board, and other like authorities throughout the kingdom, to have power to make provision for the care and treatment of habitual drunkards of limited or no means.

8. Guardians to be empowered to detain paupers who are habitual drunkards, for a period not exceeding twelve months, for treatment, either in the particular workhouse, or in some licensed retreat, with power in the latter case to pay for their maintenance.

In view of the importance of the work to be done, the committee recommended their appointment as follows:—The President and President-Elect *ex-officio*, Dr. Norman Kerr, Dr. Foster, M.P.; Mr. H. B. Balding, Mr. H. Branthwaite, Dr. C. Cameron, M.P.; Dr. Alfred Carpenter, Dr. C. R. Drysdale, Dr. J. W. Eastwood, Surgeon-Major Evatt, Dr. R. Farquharson, M.P.; Mr. W. C. Garman, Dr. J. Hill Gibson, Dr. Alexander Grant, Dr. C. J. Hare, Mr. C. Holthouse, Mr. H. R. Ker, Mr. R. H. B. Nicholson, Surgeon-Major G. K. Poole, Mr. J. Pranker, Fleet-Surgeon G. Robertson, R.N.; Dr. Joseph Rogers, Dr. G. D. P. Thomas, Dr. H. W. Williams, Surgeon-General C. R. Francis, Dr. E. H. Vinen.

NORMAN KERR, *Chairman*.

E. HART VINEN, } *Secretaries*,
C. R. FRANCIS, }



THE TEMPERANCE QUESTION AT THE BRIGHTON MEETING.

(From the *British Medical Journal*, August 28.)

ABOUT 160 members of the British Medical Association were entertained at breakfast on Friday, August 13, by

the National Temperance League. The breakfast was given in the banqueting-room of the Royal Pavilion.

Mr. M. Wallis, J.P., Brighton, occupied the chair. This was the eighteenth assembly of the kind during the annual meetings of the association, and it was memorable from the fact that Dr. N. S. Davis, of Chicago, whose distinguished medical career we last week noticed, and who, for nearly sixty years, has been a staunch advocate of teetotalism, delivered a weighty address. Dr. Davis sailed for New York on Wednesday last, and during his short stay in this country has done much to promote the solidarity of the medical profession in the two great English-speaking nations of the globe. But, probably, none of his achievements in Britain are likely to be more highly appreciated, at any rate by the advocates of temperance, than the address in favour of abstinence which he delivered upon the occasion in question. Mr. John Taylor and Dr. N. Kerr proposed and seconded a hearty resolution of welcome to Dr. Davis. In reply, that gentleman said that his life-long convictions in favour of temperance were the result of early training by his mother. He therefore counselled all mothers to recognise fully the great influence they possessed over children during the time of childhood, and to inculcate temperance by example and precept from the first. He also considered the proverb, "When you are in Rome you should do as the Romans do," in regard to alcoholic drink, a dangerous maxim. Men should be of tougher fibre than to let such an easy-going principle be a guide in life. He said that, in America, there were at least 500 medical men who had found by experience that they needed no alcohol in the treatment of disease; he had found it useless as a tonic in the recovery from disease; the patients who did not take it recovered strength sooner than those who took it. A little alcohol acted as an anæsthetic, and dulled the cerebral hemispheres, and so removed, for a time, the consciousness of aches, pains, and weariness, and left the individual at ease. Some took it in January, when the

weather was cold, because it kept up the bodily heat; although, indeed, it actually reduced the bodily temperature whilst its influence lasted. Others took it in July to keep them cool. Nursing mothers took it, too, to conserve their strength. Now, in all these cases, the anæsthetic effects of the alcohol caused the patient to appreciate less fully the influence of cold, heat, or want of strength; but, in reality, it did much harm. It was assumed to promote digestion, but this it failed to accomplish. In fact, each of the positions in turn taken up by the medical advocates of alcohol had been found to be fallacious, until its position in America had been narrowed down to this, that it was only given in acute diseases where it was supposed there was danger from extreme weakness, as in typhoid fever. But actually, in proportion to the amount of alcohol taken, by so much was the heart's force diminished. According to Professor Martin's experiments, the presence of half an ounce of alcohol, absorbed and diffused in the blood of a good ordinary adult man, was sufficient to make a very marked and decided diminution in the cardiac power. Alcohol, indeed, acted as a cardiac paralyser. Anstie had shown that the apparent excitement and exhilaration caused by alcohol were only the first step in the stage of paralysis. The increased number of contractions of a heart under the influence of alcohol were not indicative of augmented cardiac power, but a sign that the physiological power of the heart was disturbed. The quickening was an evidence of the heart's embarrassment. Medical men should, therefore, teach that wine, beer, and spirits were simply anæsthetics, and poisonous, and calculated to shorten the duration of human life. Professor Geikie, of Toronto Medical College, Dr. Simon Fitch, of Nova Scotia, and other gentlemen, addressed the meeting in a similar strain; after which the proceedings, which were of an enthusiastic description, terminated.

FOR AND AGAINST ALCOHOL.

(From the *Lancet*, August 28.)

THE total abstinence section of the British Medical Association never fail to testify at the annual meeting. About 160 members of the Association were present at the breakfast at Brighton given by the National Temperance League. We need not say that the speakers at this meeting were not of the opinion of a recent writer in the *Revue Scientifique*—M. Fournier de Flaix. M. de Flaix maintains that the outcry against alcohol is utterly unmerited, and that all vital statistics are more favourable in nations in proportion to the use of alcohol. In France, he says, the birth-rate is lower and the death-rate higher where the consumption of alcohol is smaller. In England again, more alcohol is consumed than in France, and yet in France the birth-rate, the death-rate, and the statistics of crime and suicide, are less favourable than in England. Comparing other nations, he reaches the same conclusions, and maintains that alcohol is an alimentary element, whose consumption should depend directly on climate. Very different were the teachings of the medical abstainers at Brighton—viz., Dr. Norman Kerr, Dr. Nathan S. Davis, Professor Geikie (of Toronto Medical College), Dr. Simon Fitch (of Nova Scotia), Dr. Bernard O'Connor, and Dr. Ridge, Secretary to the Medical Temperance Association. Dr. O'Connor said that during his fourteen years of practice he had never prescribed alcohol for any patient. Speaking as a physician to a consumption hospital, he maintained that phthisical patients did much better without alcohol—the night perspirations and the cough were less, and the morning exhaustion was less. But the principal speaker, of course, was Dr. Nathan S. Davis, the president-elect of the approaching International Congress. Dr. Davis's disparagement and denunciation of alcohol were absolute and unconditional. It does not nourish, it does

not sustain heat, it does not assist convalescence, it does not improve the pulse in fever, and it is of no virtue in nursing. It is purely evil in its effects. So far from strengthening the heart's action, it depresses it—it paralyses it. In saying so, he relied not only on his own observations, but on those of Anstie and Parkes. He maintains that alcohol is simply anæsthetic; that it does not remove evils, but makes one insensible to them; and that it arrests and retards all healthy action of the tissues, and tends to the retention and accumulation of effete materials. It is a pity that M. Fournier de Flaix and Dr. Davis did not meet at the Brighton breakfast. There is perhaps a little extremeness on either side, but of the two sides we decidedly lean to that of Dr. Davis. We entirely agree with him and other speakers in thinking that the medical prescription of alcohol should be undertaken only on the strictest grounds. M. de Flaix must remember that France now is not far, if at all, behind England in the consumption of alcohol, and that, besides, she indulges in absinthe; and he will have to explain the fact that in the temperance section of life insurance offices in England, the value of life is apparently much greater than in the ordinary section, so much so that in some offices teetotal lives are taken for less premiums, or receive larger bonuses. When we read the indictment of Dr. Davis against alcohol, we are tempted to ask if it is the whole truth; if alcohol has no redeeming quality. Admitting that it does infinite harm, does it do no good?—does it prevent no evil? Can the able physicians who recognise its virtues be all mistaken? The question is one for scientific and thoughtful men to discuss gravely, and medicine will not be without much authority and, let us repeat, responsibility, in its settlement.

Notes and Extracts.

DRUNKARD'S EPILEPSY.—In view of Magnin's assertion that in France the frequent cases of epilepsy occurring in drunkards are due, not to alcohol, but to absinthe, Moeli has reviewed the German statistics on the subject, which may be thus summarised. In Germany 36 to 40 per cent. of the subjects of delirium tremens are also victims of epileptic attacks. An attempt to determine whether the occurrence of such attacks was correlated with the abuse of any special kind of distilled liquor was unsuccessful, but it was found that in twenty-six almost exclusively beer and wine drunkards, only one was epileptic.—*Med. Press*, Sept. 1.

REPORT OF COMMITTEE ON ALCOHOLISM IN FRANCE.—At the last meeting of the Académie de Médecine M. Rochard read the report of the committee which that body, at the instigation of the Government, had elected to examine the question of alcoholism in France. M. Rochard stated that the consumption of alcohol has doubled in forty years, and that alcoholism had increased enormously; he considered that it was a regular wholesale poisoning due to the inferior quality of the alcohol employed in the fabrication of wines. The spirits of beetroot, potatoes, grains, so much employed to-day, contain deleterious principles in very strong proportions, which an imperfect distillation has been unable to extract. The Spanish and Italian wines which now fill the market are artificially charged with alcohol of an inferior quality. The committee concluded their labours in pressing on the Government the necessity of using better control in the application of the law touching drunkenness and the management of public-houses, of which there is one to every twenty-five inhabitants! The committee further expressed the wish that this extraordinary proportion should be considerably diminished.—*Medical Press*, July 21.

DISUSE OF ALCOHOL AT AN ASYLUM.—At a meeting of the Stockport Union Board of Guardians, Aug.

23, the chairman (Alderman Chapman, J.P.) reported upon a visit made by a deputation to the County Lunatic Asylum at Parkside, Macclesfield. It appears that on the advice of the medical superintendent, Dr. Sheldon, beer is now omitted from the dietary of this establishment. In his report to the asylum authorities for 1885 Dr. Sheldon states:—"In March I submitted to your committee a memorandum advocating the disuse of beer as an article of diet in this asylum; the memorandum was printed and circulated among the visitors, and after discussion it was resolved to withdraw beer for three months, to make certain alterations in the diet scale, and to consider the result. In September it was resolved to make the experiment continuous. My arguments, briefly, were that alcohol is unnecessary in ordinary diet; that many lunatics are far better without it, even when it takes the form of asylum beer; that directly and indirectly it plays a most important part in the causation of insanity; that, in my opinion, an attack of insanity often leaves an individual specially susceptible to its influence; and that therefore so practical an opportunity as is afforded by asylum discipline of preaching the advisability of abstinence from alcohol on the part of those of unstable brains should not be lost. I then pointed out that these considerations appeared to me to outweigh the objection that in depriving the lunatic of his beer one took from him a valued portion of his diet. As an attempt at compensation (seeing that the staff were at the same time offered beer money), I suggested that changes should be made in the dietary. After eight months' experience of the measure I am able to report that complaints have been remarkably few, and that the general health of the patients is not deteriorated; the diet, compared with that in other asylums, is generous; and whilst water has been substituted for beer at dinner, tea, coffee, and milk are freely given to workers and invalids."

British Medical Temperance Association.

President.

DR. B. W. RICHARDSON, F.R.S.

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Enfield, September, 1886.

J. J. RIDGE, M.D., *Hon. Sec.*

THE
MEDICAL TEMPERANCE JOURNAL,
January, 1887.

Original Contributions.

THE INFLUENCE OF HEREDITARY PREDISPOSITION
IN THE PRODUCTION OF IMBECILITY.*

By FLETCHER BEACH, M.B., M.R.C.P., *Medical Superintendent
of Darenth Asylum.*

“HEREDITY,” according to Ribot, “is that biological law by which all beings endowed with life tend to repeat themselves in their descendants; it is for the species what personal identity is for the individual.” This law applies not only to the physical, but also the mental life. Examples of heredity of the external structure and the internal conformation of the body have been known from ancient times, and the Romans had their *Nasones*, *Labeones*, *Buccones*, *Capitones* and other names, derived from hereditary peculiarities. The heredity of disease has also been observed from the foundation of the art of medicine, and the transmission of a tendency or disposition to certain diseases, such as gout, tuberculosis, and cancer, is well known to all of us. The same biological law holds good as regards the mental life. Ribot gives several examples of the heredity of intellect in the lives of Bacon, Hallam, Macaulay and others, and recently Mr. Sully has written an article in the *Nineteenth Century* on the “Precocity of Genius.” The modes of mental life are also transmissible in their morbid form, and the study of mental diseases contributes many facts in favour of heredity. In former times, it was held that insanity may proceed from purely psychological causes, and, in accordance with the theological notion,

* Read in the Psychological Section of the British Medical Association, at Brighton, August, 1886.

was due to the presence of an evil spirit in the sufferer, or to the enslavement of the body by sin. This idea of mental disease has long since been exploded, and it is recognised on all sides that disease of the mind is due to disease of the brain, and as every part of the organism is transmissible, the heredity of mental affections is not the exception, but the rule. In connection with this, we must take into account the metamorphosis or transformations of heredity. Dr. Moreau, of Tours, says, "it shows an incorrect conception of the law of heredity to look for a return of identical phenomena in each new generation. A family, whose head dies insane or epileptic, does not of necessity consist of lunatics or epileptics; but the children may be idiots, paralytic or scrofulous. What the father transmits to the children is not insanity, but a vicious constitution, which will manifest itself under various forms in epilepsy, hysteria, scrofula, rickets. Thus it is that we are to understand hereditary transmission." The passion for drink is not always transmitted in that identical form, for it often degenerates into mania or idiocy. "A frequent effect of alcoholism," says Dr. Magnus Huss, "is partial or total atrophy of the brain; the organ is reduced in volume, so that it no longer fills the bony case. The consequence is a mental degeneration, which in the progeny results in lunatics and idiots." So with deaf-muteness in the parents there may be in the children some infirmity, as obtusement of the mental faculties or even idiocy. Dr. Legrand du Saulle calls attention to the fact that in houses of correction are to be found "creatures who are whimsical, irritable, violent, *with little intelligence*, refractory, ungovernable, and incorrigible. These are the children," he says, "sometimes of drunkards, epileptics, or lunatics. Sometimes, and this is the more frequent case, their father is unknown, and their mother is scrofulous, rickety, hysterical, a prostitute, or a lunatic." Many of the patients in the Darenth Asylum are the children of parents of this kind.

Examining now into my own experience, I find that of 836 cases where I have been able to obtain information, there is a history of hereditary predisposition in 637, or 76 per cent. Of various authors who have examined into this cause, Moreau, of Tours, found a percentage of nine-tenths, Ludwig Dahl of 50 per cent., and Dr. Langdon Down of 45 per cent. The reason for my percentage being higher than that of Ludwig Dahl and Langdon Down is probably that, agreeing with and adopting the foregoing statement of Moreau, I have included causes which those authors have not. I include the following: intemperance, insanity, imbecility, epilepsy, phthisis, chronic neuralgia, paralysis, disease of the brain, excitability, extreme nervousness, cancer, deaf-dumbness, suicide, a masturbating father, and a mother who

is a prostitute. Many of these causes act together in the predisposition to imbecility.

The following table gives the numbers and percentages of these causes fully :—

	M.	F.	Total.	
Intemperance	36	39	75	or a percentage of 8'97
Intemperance and other causes ...	77	59	136	" " 16'26
Insanity	32	29	61	" " 7'29
Insanity and other causes ...	30	13	43	" " 5'14
Imbecility	8	5	13	" " 1'55
Imbecility and other causes ...	12	5	17	" " 2'03
Epilepsy	25	22	47	" " 5'62
Epilepsy and other causes ...	31	16	47	" " 5'62
Phthisis	83	59	142	" " 16'98
Chronic neuralgia	4	3	7	" " 0'83
Paralysis	20	3	23	" " 2'75
Disease of the brain	5	0	5	" " 0'59
Excitability	7	0	7	" " 0'83
Extreme nervousness	1	3	4	" " 0'47
Cancer	3	2	5	" " 0'59
Deaf-dumbness	2	0	2	" " 0'23
Suicide	0	1	1	" " 0'11
Masturbating father	1	0	1	" " 0'11
Mother a prostitute	0	1	1	" " 0'11
	<hr/> 377	<hr/> 260	<hr/> 637	<hr/> 76'08

It will be noticed from the above table that there is a history of hereditary predisposition in 377 males and 260 females, corresponding with the ratio of males to females in the Asylum, where there are always half as many again of the former than the latter sex. The "other causes" mentioned above are intemperance, insanity, imbecility, epilepsy, and phthisis, occurring in the parents or their relations. Phthisis and cancer have been included, because I am of opinion, with Dr. Ireland, that whatever weakens the organism of the parent may be a cause of idiocy in the offspring. Moreover, Dr. Clouston recognises a peculiar form of insanity due to phthisis in the parents, and I see no reason why imbecility should not also be the result. At any rate, phthisis alone, or in combination with other causes, was present in nearly half the cases. It is not necessary to defend intemperance as a predisposing cause, for there is no doubt, as Huss has said, that the result is a morbid degeneration in the parent, and the product is imbecility in the children. I entered fully into this question in a paper read at Cambridge a few years ago, and subsequent experience has not only borne out, but has amplified the results then arrived at. Chronic neuralgia, excitability, extreme nervousness and suicide are included, because they are all forms of a neurotic diathesis, and therefore may predispose to mental derangement in the offspring. In this opinion, I am supported by

Dr. Maudsley, who recognises that not mental derangement only, but other forms of nervous disorder, may predispose to mental unsoundness in the children. He especially notes neuralgia and suicide, and though he does not mention the word "excitability," he refers to the fact that persons with "the insane temperament" are likely to suffer an entire overthrow of their mental equilibrium. Again and again were neuralgia, nervousness and occasionally excitability noted in connection with other causes. No defence is needed for the inclusion of paralysis and disease of the brain as predisposing causes, while Menckel has given several instances of imbecility in children of deaf-mute parents. A prostitute mother is mentioned by Legrand du Saulle as a cause of children with little intelligence, and a masturbating father certainly must suffer from considerable enervation of nerve element. The children of parents suffering from the above causes may not always be born imbeciles, but there is no doubt that they inherit nervous instability, which is easily upset by a slight cause, and imbecility is the result. That this is so is proved by the fact that several brothers and sisters of the patients at the Darenth Asylum have either suffered from or died of convulsions.

On examining further into the histories, it was noted that in some cases several members of the family suffered from one of the predisposing causes, such as insanity or epilepsy. Also it was discovered that the grandfather on the paternal or maternal side often transmitted the hereditary predisposition through the father or mother to the patient, instances being thus given of atavism or reversional heredity. Marriage of first cousins was noted in fourteen cases. In most of these there was marked mental unsoundness on both the father and the mother's side, the most notable case being one where the father was intemperate, the grandfather intemperate and insane, the uncle intemperate and imbecile, and the mother's father was paralysed. In two cases, second cousins had married; in two the father's parents were first cousins, and in one the father had married his niece.

Some cases illustrating hereditary predisposition in imbeciles are appended.

E. B., aged seven. Father had syphilis before marriage and communicated it to mother; mother very nervous; eldest sister of mother has suffered from epileptic fits; paternal grandfather of patient imbecile; maternal grandfather very nervous; maternal grand-aunt insane. This case is a good illustration of several causes acting together to produce the imbecility, for we have insanity, imbecility, epilepsy and great nervousness in the parents' relations. The child is stated to have been quite right at birth, and to have gone to school, where she made good progress, until

two years before admission. The immediate cause of the imbecility is said to have been a fright, but it was noticed that she was becoming nervous a year before. On admission she was bright looking, with good features, but was very vicious and bad tempered. She would scream at the top of her voice, and then stop suddenly and pull out her hair. Lately she has become quiet, very helpless and more imbecile.

E. P., aged six. Mother consumptive, excitable, nervous and has fits occasionally; cousin of mother insane; uncle and brother of father epileptic. One brother of the patient was born with convulsions. The history of the case was that the child had always been bright, but for the last twelve months she had become "dangerous." She had paroxysms of rage without apparent cause, during which she would tear out her hair, and bite her own and her mother's fingers. On admission, she was bright and intelligent looking, and good tempered in disposition. Her mental capacity was fair, her powers of observation, imitation and attention, being good. She improved very much during her residence in the Asylum, was quiet, well behaved and answered questions intelligently. She was taken out by her friends after being in the Asylum five months. The immediate cause of the overthrow of the child's mental equilibrium is not apparent; the excitability from which she is said to have suffered had disappeared when she was admitted, and practically her mental condition was fairly sound when she was discharged, although she had been in the Asylum a very short time.

D. A. P., aged eight. Father "touched in his mind;" paternal grandfather and grandmother died in an Asylum; paternal great-grandmother committed suicide; maternal aunt subject to fits. The hereditary predisposition is here seen extending through three generations on the father's side, while epilepsy is present on the mother's side. The mother had a good deal of worry during pregnancy. The child did not speak till a short time before admission. There was evidently a good deal of excitability and destructiveness present, for she never could be left with babies; she would dress and undress and smack them, and if she had a doll, the mother says, she would "limb" it. The hereditary neurosis was evidently well marked in this family, for the eldest child was excitable, and the second dull. This was the third child. On admission she was a well-nourished, dark complexioned, good tempered child, with a pleasing expression, subject to fits occasionally. She has made a little progress since her residence in the Asylum.

J. I., aged seven. Father suffered from numbness in the left arm, and had a few fits before his death from heart disease; paternal aunt died of fits; uncle and aunt of father died of

paralysis, as also did mother's grandmother and aunt. Both sides of the family, but especially the father's side, were affected. The child was bright and cheerful until two years of age, when he was taken with a fit while teething. After this fit he used to have them every four months, and they continued up to the time of admission. He was then a bright looking boy, of a restless disposition and always in mischief. Mental capacity fair. Under treatment he has considerably improved and has made good progress in school and in the tailor's shop. In 1881, it was noted that he had no fit for two years. In 1883, he had another fit, and he has had one since.

J. W. A., aged thirteen. Father intemperate and sulky; aunt epileptic and has an imbecile child; grandfather and grandmother died of apoplexy. The mother had a fright when six months pregnant. The case is a congenital one and is interesting, showing, as it does, the strong influence of neurosis in the family, first, from the fact that there are two other imbecile children besides this one, and secondly, in that the aunt, who is epileptic, has also an imbecile child. The boy was of a cheerful disposition, with small mental capacity. He was nearly five years under training and made next to no progress.

E. K., aged eleven. Maternal great-grandmother insane; maternal grandmother and aunt epileptic; maternal great-uncle was epileptic and died paralysed; paternal grandmother epileptic; paternal aunt has a daughter who is insane. The mother fell down stairs when four or five months pregnant and became insensible. This is an exceedingly interesting case, not only as showing the action of several predisposing cases in producing the imbecility, but also because the predisposition is seen to extend, in the direct line, through three generations on the mother's side, and two on the father's side, while the father and mother are mentally sound. This is as well marked a case of atavism, or reversional heredity, as could be wished for. The side lines are also affected, for the maternal grand-uncle and maternal aunt are epileptic, and the paternal aunt has an insane daughter. With such a history, it is not surprising to find that the child was not only a born imbecile, but one of the very lowest type. On admission, she was found to be paralysed on the right side, and to suffer from frequent fits. She could not utter a word. She gradually became helpless and had to be fed.

C. M., aged nine. Father insane; mother imbecile; maternal uncle insane; phthisis on father's side of family. Mother frightened when pregnant. The child was a well-marked microcephalic imbecile, her head measuring only $15\frac{5}{8}$ inches in circumference. Naturally her mental capacity was very small. Her special senses were very defective, she was paralysed on the right side and quite helpless. She died fifteen months after admission and

On examination the posterior half of the left lobe of the brain and the posterior third of the right contained serous fluid. The brain after the fluid had drained away weighed only sixteen ounces.

M. E. V., aged seven. The grandmother, sister of grandmother, and aunt of child, all died in asylums: Father and mother mentally sound. This is another case of atavism, the hereditary predisposition extending through two generations in the direct line and two in the side line; in the latter, however affecting the mother's sister. The case was a congenital one of low type with small mental capacity. She was the eldest child; one younger had died of brain disease. She only lived two months after admission, and on examining the brain after death the convolutions were found to be very simple in character.

M. D., aged fourteen. Father very irritable; some paternal uncles have died of "head" diseases, and one paternal uncle is imbecile; paternal grandfather died "raving mad." There is not much doubt that the father's irritability, which was said to be increasing, was a sign of the insane temperament, more especially as one of his brothers was an imbecile, and some others had died probably insane, or at least of disease of the brain. Besides this child, there have been nine others, of whom seven had died of convulsions, and the two who were alive had had fits. The case was a congenital one, of fairly high type. She made good progress in school and was apt with her needle. She was discharged after seventeen months' residence, as the mother thought she could manage her, but was re-admitted nine months afterwards, being very obstinate and not amenable to treatment. She again became well-behaved and made considerable progress.

S. I. I., aged six-and-a-half. Father has "drinking bouts" every six weeks; paternal grandfather died in an epileptic fit; mother a martyr to neuralgia; maternal aunt imbecile; maternal grandfather paralyzed. Here the intemperate habits of the father were no doubt an outcome of his father's neurotic temperament, while the severe neuralgia of the mother was probably due to her father's diseased brain, more especially as her sister was an imbecile. The mother fretted a good deal while pregnant, in consequence of her husband's intemperate habits, and the child was a born imbecile of what is known as the Mongol type. His mental capacity was small, and he made very little progress while in the asylum.

Many other cases might be quoted in illustration of the influence which hereditary predisposition has in the production of imbecility, but the above are fairly typical, some being congenital cases, and others being born with unstable brains, easily upset by a comparatively slight cause. Other points than those noted might have been touched upon, but it would have been difficult to do so in the time allotted to this paper.

THE THIN END OF THE WEDGE.

By C. R. FRANCIS, M.B.

TEETOTALERS would rejoice to see all alcoholic concoctions banished, as beverages, from the world. Non-abstainers, on the other hand, advocate the daily moderate use of them. The former maintain that, taken otherwise than as physic, alcohol injures the health and shortens life. The latter assert that, in moderation, it does neither; that, so far from injuring health, it, in many cases, improves it; and that it does not impede longevity. In support of their assertion, they point to the fact that a large majority of our countrymen and countrywomen take these beverages daily in moderation—many of them in extreme moderation; that they, apparently, enjoy excellent health; and that some of them attain to even patriarchal ages. Non-abstainers, therefore, advocate the use of a modicum of alcohol, as represented in light Continental wines (which, however, are not easily attainable away from the Continent), and in mild home-brewed beer. Some, indeed, are in favour of stronger wines and of stronger malt liquor.

Scientific inquiry has distinctly and decidedly demonstrated that alcohol, *per se*, is not a nutritive food. It contains none of the materials essential for building up the human fabric; for taking the place of tissues that are daily worn out and removed from it; nor for supplying the waste caused, occasionally, by disease. That, under certain circumstances, it creates a passing force that may be utilised for promoting the action of valuable remedies, or of giving temporary vigour to the individual, is admitted. These advantages are, however, apt to be more than counterbalanced by subsequent disadvantages of a nature sometimes so serious that, in view of this possibility, its administration requires great care and experienced supervision. The daily use of alcohol as a beverage is like playing with edged tools; it is indulgence in a luxury that is full of danger. Very few take it for any medical reason; they take it because they like it, some no doubt believing that they are being benefited thereby.

If society would face the truth; if it would recognise the fact that alcohol is not a food but a fancy, and would be content with the modicum before alluded to—the so-called “physiological quantity” that, speaking generally, does no harm,—drunkenness, with its hecatomb of evils greater than those caused by war, pestilence, and famine combined, would disappear from our midst. And not only would drunkenness disappear, but a variety of ailments, mental and physical, which may be traced to the use—to sometimes even the moderate use—of alcohol. Although the majority of such moderate drinkers may attain to old age quite

unscathed, yet there are many who, well as they may *seem* to be, are better both in body and mind when they leave off their moderate allowance. Every medical man of experience has repeated evidence of this. Let me give one or two illustrations. Captain Y——, a retired Indian officer, in the prime of life, and exceedingly well preserved, was, when I last saw him a few years ago, literally doubled up with “rheumatic gout.” He was never straight except when asleep in bed. Driving or walking, his body was, with reference to his legs, almost always at an angle of 45° . When in his pony-carriage he looked like a “hump-back.” Captain Y—— had been in this state for some six years, and had tried every conceivable anti-rheumatic remedy, as recommended by physicians and friends, without any benefit. At length his medical attendant advised him to give up his beer—Captain Y—— was a very moderate drinker—which he did, with striking results. Four years after giving it up, he (Captain Y——), wrote to me, “I am quite well, and have no signs of the enemy. . . . If you saw me at dumb-bell practice you would not think it amiss for a man of fifty-four.” Temperance workers are familiar with the story of Sidney Smith, who, becoming an abstainer towards the end of his life, and feeling much better in consequence, wrote to a friend that he had been ill for so many years without knowing it! We meet, occasionally, with persons who, abstaining as an experiment, or in recognition of the season of Lent (when they wish to give up “something”), say at the end of a month that they feel no difference; thus clearly showing that the beverage was, to say the least, unnecessary. The majority, however, are, in some way or other, decidedly better for the abstinence. I may instance myself. Feeling the benefits of abstinence during the past five years, I may truthfully say that I very much regret not having been an abstainer all my life. It is in fact the experience of almost all who were at one time advocates of moderation, but who subsequently became abstainers, that the giving up of alcohol as a daily drink has, so to speak, set them free. They had no idea, until they left it off, of its depressing influence.

Alcohol is seductive, and its use inclines for more. Unlike ordinary food, which satisfies the appetite of hunger, it creates an appetite for itself. If there were no alcohol in the wine, or beer, which many drink because, they say, they don't like raw water, nor any of the vinous substitutes provided by temperance reformers, these beverages would not be so popular. It is the alcohol that pleases, exhilarating the spirits, making the heart glad, and giving an agreeable fillip to the meal. How many are heard to say that, unless they have their beer, they don't feel as if they had had their dinner! It gives a colour to the

repast, and they look forward to the latter as, on account of the beer, an important event in the day. Such men, who habitually take their pint, or half-pint, at dinner and supper, will probably swallow half the quantity with great gusto before the commencement of the meal; and, in a true Shylock spirit, they will drain the glass, or tankard, or pot, to the last drop at the end of it; and, if perchance the supply should be less than usual, they may suggest its being supplemented by another half-pint,—the deficiency being a very minus quantity as compared with the addition! Now, when alcohol comes to assume a position like this in the daily dietary, the danger from its use is evident.

Moderation is not a fixed quantity. Some men, spoken of as moderate—men who are never seen to be under the influence of alcohol—drink at each meal (at luncheon and dinner, or at dinner and supper, as the case may be), taking something between and winding up with a spirit “night-cap,” go to bed every night more or less saturated with alcohol. Others, again, take a single glass, or at most two, of wine or beer at each of the afternoon meals of the day, with nothing at any other time. Between these two extremes there is every degree of moderation; but, whatever the degree, all disinterested sensible moderate drinkers agree in condemning the too free use of alcohol in the more concentrated form of spirits,—as brandy, gin, whisky and rum, &c. Many, indeed, wisely abstain from these altogether. We daily see the mischievous effects of spirits in the cases of congestion that are brought to medical men for treatment. The action of alcohol in paralysing vaso-motor influence and, so, causing congestion, particularly in the “weak point” in the system, is now well understood. The temporarily flushed face of one unaccustomed to alcohol, the more permanent reddening of the cheeks and nose of the “seasoned vessel,” and the congestion of internal organs are due to the same cause. The intimate connection between congestion of the liver and frequent repetitions of brandy and soda—some residents in the tropics are not able to take *any* preparation of alcohol without a similar result—is familiar to medical practitioners in India. Uterine congestion, again, if not originally caused, is very frequently maintained, in consequence of patients declining to give up their glass of spirits and water at night, taken, in most cases, in addition to the wine or beer, or both, of the day. Prescribed originally, it may be, to relieve pain at the monthly period, the prescription, as in the case of neuralgia, comes to be taken DAILY to prevent it! I am acquainted with ladies with a tendency to uterine congestion, who cannot drink *any* alcoholic beverage for two or three days consecutively without this trouble being developed. How injurious, therefore, must be the effect of spirits! Congestion of the uterus is not an uncommon condition—particularly amongst

married child-bearing European women—in India; and this is one reason why our countrywomen there would do well to follow the example of the native females of the country and abstain altogether. Uterine congestion is not, I believe, a common disorder with *them*, any more than is congestion of the liver with the abstaining natives generally.

Premature decay of the system is another very conspicuous result of spirit drinking. It is especially conspicuous in those who have arrived at full manhood. The spirit drinker rarely attains longevity; and, if he does, it is owing to an exceptionally strong constitution. As a rule, he looks sixty when he is fifty; and, at the former age, when men, having led a regular and rational life, without in their youth adding “hot and rebellious liquors” to their blood, *look* comparatively youthful, and *are* youthful in mind and heart and physical vigour; they, the injured of alcohol, look and *are* old men. The moderate beer and wine drinker *may* arrive, hale and hearty, at the Scriptural limits of man’s life—to the threescore years and ten assigned by the Psalmist of Israel; or he *may* (for he runs the risk) join the ranks of the floating population of 600,000 drunkards, or of the 60,000 who die annually from the effects of alcohol. The teetotaler, who abstains entirely from the luxury (running *no* risk), suffers, as a rule, from nothing: he is seldom seriously sick. And, if he *should* suffer from any of the numerous ills to which flesh is heir, he recovers more quickly; and, according to the Life Assurance offices, he lives longer than the non-abstainer.

Referring to the Scriptural limit to man’s useful labour upon earth, it must be remembered that David was speaking of the people amongst whom he dwelt—Eastern people exposed to a high temperature;—he knew no other. Such people, partly from want of constitutional vigour, partly from climate, and partly from social customs (not drink), attain old age earlier than the inhabitants of more Northern countries. There seems, indeed, to be no reason, anatomical or physiological, why the human frame, if naturally strong and healthy, and if not handicapped by the enfeebling customs of civilised life, should not, *cæteris paribus* and in a good climate, reach the age of 100 and more,—retaining the possession of mental and physical health to the end. There are authenticated records of men and women, residing in temperate climates and leading very temperate lives, who have lived very much longer. Some, indeed, who were notorious tipplers, have done the same. These, however, have been the exceptions: they have lived on in spite of the alcohol. And, it must be remembered that the habitual toper—he who “soaks”—is much more likely to suffer than the man who only occasionally has a “bout” of drinking.

It is sometimes suggested, even by total abstainers, that

working men—*e.g.* agricultural labourers—who have signed the “total abstinence” pledge, should yet be allowed to drink mild beer in the hay and harvest field, as well as with their meals; the question being mooted whether this might not be considered consistent with their vow. I venture to think that the adoption of the suggestion would be utterly at variance with the spirit of the abstinence movement. It would be introducing the thin end of the wedge. That men will drink their favourite beverage, say what we will, we are well aware; but it is not for us to recommend it. We may be told by the advocates of this measure that the amount of alcohol in home-brewed country beer is exceedingly small; very little more, sometimes, than what exists in ginger beer; and people don’t get drunk upon that! All that is required, they add, is a pleasant and refreshing drink, with just enough alcohol to preserve the fluid and to give piquancy without intoxicating.

There are three points involved in this suggestion: (1) the (questionable) necessity for something to drink between meals. (2) The possibility of brewing beer down to the strength suggested. (3) Its answering the proposed purpose when brewed. The first point need not be dwelt upon here. With regard to the second, it has been found by experience that beer cannot be brewed to contain less than 3 per cent. of alcohol. This, I am informed by well-known brewers, who are also large exporters, is the minimum percentage possible. A beer with less would come more within the domain of the chemist; resembling, it is said, a medicinal concoction. Be that as it may, beer containing only 3 per cent. of alcohol is seldom to be found, I presume, in the *public-houses and beer-shops* of the United Kingdom. Home-brewed beer, as its name implies, is limited to beer brewed for home consumption, as at farm-houses, &c. And doubtless, in such beer, there may often be not much more than 3 per cent. The progressive tendency to fortify alcoholic liquors is illustrated by the fact that, in the time of James I., each man and boy in the Royal Navy was allowed a gallon, or eight pints, of beer per day,—a large amount of fluid containing, doubtless, a very small quantity of spirit.

Beer is liable to be taxed if it contains more than 3 per cent. of proof spirit, which consists of rectified spirit and water in the proportion of 5 to 3. (Rectified spirit is alcohol plus 16 per cent. of water.) So great is the affinity of alcohol for water that it cannot be distilled from any liquid containing it without this quantity of water passing over into the receiver with it; and chemical agency is required to separate them. It would be well if non-abstainers remembered this fact, showing, as it does, how certain of the tissues of alcoholists are apt to be dried up

and lose their elasticity. A liquor is considered intoxicating, and, therefore, dutiable, if it contains 3 per cent. of proof spirit (rather more than half of which is alcohol); and very nearly thus much is contained in ginger beer, as made by the old process in the Isle of Wight. According to a recent analysis the latter contains 1.2 per cent. of alcohol. Beer with 3 per cent. of alcohol would contain over 6 per cent. of proof spirit, more than 3 per cent. above the Government intoxicating point. Ginger beer, even with its maximum percentage of alcohol, is not likely to induce the drink crave, as the quantity necessary to create it would be more than the stomach, long-suffering organ as it is, would tolerate.

But, referring to the third point, home brewed beer, which contains twice the quantity of alcohol, certainly might answer the purpose contemplated by its advocates: and, so far from encouraging men to “stick” to their beer, though only in the smallest quantity of the weakest kind, under the view that it is the national drink, and the product of a national industry, we should endeavour to dissuade them from having anything whatever to do with it. Many employers of labour give their men flour and water sweetened, with or without lime juice; and the hardest worked among them, *e.g.* top-sawyers, speak highly of the substitute, which is pleasant and refreshing, thirst-quenching, and, above all, nourishing. If the enormous quantity of barley, now annually misapplied in the manufacture of malt, were thus utilized, it is impossible to estimate to what extent the diseases intensified by, if not altogether due to, alcohol might not be stamped out from amongst us. And not only so, it would add to the strength of our race. The gladiators of ancient Rome were fed exclusively upon barley: hence the term “*Hordearii*.” Is it too much to expect that the consumption of John Barleycorn, *in propria personâ*, in lieu of his treacherous substitute, would give more physical, as well as more moral, backbone to our working men?

We must endeavour to educate public opinion in this direction. Our temperance reformation may not, from year to year, make so much headway as we could wish: but it will make none—its movement will, on the contrary, be retrograde—if we encourage the drinking of beer with even the lowest possible percentage of alcohol. Our battle is against alcohol. Its existence in ginger beer, as in some other saccharine fluids, cannot perhaps always be prevented; its presence there is adventitious, but, we should object to the beverage into which it is deliberately introduced as a necessarily integral portion of the drink.



ALCOHOL IN FEVER.

By J. J. RIDGE, M.D.

"He that pleadeth his cause first seemeth just ;
But his neighbour cometh and searcheth him out."—*Prov.* xviii. 7.

THIS "neighbour" is a very great nuisance; he gives "a world of trouble," especially when he is a teetotaler and will not take for granted all the hoary ideas about the value of alcohol in health and disease. So, apparently, thinks Dr. Collie, in his paper "On the Administration of Alcohol in Fever,"* But though the reformer is always a nuisance to some people, he is a blessing to the world. Dr. Collie cannot discuss the use of alcohol in disease without saying something to show that he is "not forgetful of the alcohol question in its more general aspect," and as Dr. Andrew Wilson seems to think that his remarks are worth quoting, and quotes them accordingly in "HEALTH," it may be desirable to reproduce them as a specimen of modern medical wisdom:—

" 'The lion and the tiger are magnificent animals, and they drink only water.' If all men lived under the same fortunate conditions, they too might drink nothing but water. All things are relative, a proposition probably in nothing so much forgotten as in the discussion of the merits of alcohol. The conditions under which human beings live are somewhat different from those of the lion and the tiger, and if these lived the weary, monotonous lives of thousands of poor people in this city, they too might find a pleasing relief from the burden of life in a little alcohol. This, like every gift which God has given to man, may be abused, but that is no reason why it should not be used, 'Virtue itself turns vice, being misapplied.' It is not, however, my intention to do more than indicate that I am not forgetful of the alcohol question in its more general aspect, before setting forth the conditions in which I think it should be employed in fever."

The conclusion to be drawn from this paragraph is implied rather than expressed, so that each drinker of alcohol will probably draw his own conclusion, namely, to take and enjoy his beverage as usual, the only conclusion he wishes to draw. But, after all, what argument is there in it? "The lion and the tiger [living under fortunate conditions] are magnificent animals." "If men lived under the same conditions they might drink only water." It is assumed that they do not—that weary, monotonous lives necessitate, or at least justify, the resort to alcohol. But what about caged lions and tigers? Are not they "magnificent" also? But are not their lives weary and monotonous? Yet they need and drink only water.

If the "poor people" who live weary and monotonous lives are to drink and drown their troubles, this at all events gives no

* *The Practitioner*, November, 1886.

excuse for the rich and prosperous. But it is pernicious advice. If lives are weary and monotonous—and there can be no doubt of that—they will never be permanently brightened by temporary stupefaction; their trouble is likely to become double, and they will make their own lives wearier and more monotonous, and other people's lives too. Troubles must be met, and met manfully; they are the stimuli to arouse us to remove their cause. Life in our great cities is scarcely worthy of the name to tens of thousands; but experience proves that it is the abstainer who can best meet trouble and rise above it, with a sound mind in a sound body. It may be politic on the part of the well-fed and well-clothed and well-housed to recommend Lazarus to relieve his misery by the bowl, and give up the search for social remedies, but it is a selfish policy for all that. To teach men to look for comfort in trouble through temporary forgetfulness, instead of seeking it from God and justice, is "not from above." Whatever the "use" of alcohol, it is not that. To use it thus is to abuse both the gift and the recipient. It brings home a curse for which those who give such advice are greatly responsible.

But Dr. Collie proceeds to deal particularly with the administration of alcohol in fever, under the following heads:—(a) general observations; (b) typhus fever; (c) scarlet fever; and (d) enteric fever. Generally speaking he says that alcohol is only necessary when food is not taken in sufficient quantity, in elderly patients, and in the case of poor and destitute children. He goes on to say that "it is indispensable in all cases of exhaustion." Such a statement can only mean that the cases cannot recover without it; but to this we must give an emphatic denial. Not only do such cases often do well without alcohol, but I am confident that a strict comparison of cases would reveal a lower mortality. I do not claim that all cases treated non-alcoholically will recover; some will die, and the suggestion may be made that the cases have died for lack of alcohol; but it is forgotten that many cases treated with alcohol, *secundum artem*, also succumb, and the conclusion that alcohol is indispensable cannot be accepted as true until it has been shown that the mortality without alcohol is higher, the cases compared being sufficiently numerous to eliminate accidentals.

Speaking from my own experience I can affirm that I see far fewer cases of extreme prostration since I abandoned the alcoholic treatment, and I cannot resist the conviction that, whatever alcohol may seem to do, its ultimate effect is to produce prostration in cases which would otherwise escape. I believe this is particularly the case where alcohol is administered *as a food*, and is relied on for that purpose, replacing materials which truly deserve the name. And, after all, it is not a large quantity of alco-

hol that can be given. Dr. Collie suggests about three ounces of alcohol daily, and even if this amount be burnt up usefully as food, its thermic equivalent, or food value, is considerably less than that of the more complex ingredients contained in milk, beef-tea, and farinacea. For, in the process of conversion of sugar into carbonic dioxide, alcohol is a transition product, which is not far removed from the ultimate goal.

Dr. Collie seems to regard alcohol as more needful for adults than for children, and for elderly persons than those in middle life. I presume that he finds that the older the patients are, the more seldom does any harm seem to arise from alcohol. They stand it better and so seem to do better with it. But is not this just in keeping with the well-known physiological fact that, other things being equal, adults can resist the noxious action of alcohol more readily than those in whom the nervous system is still immature? Alcohol, it must be remembered, has a two-fold rôle in the system. It has its chemical influence on every cell with which it comes into contact and is in turn affected by them, *sui generis*. But, on the other hand, it has its special influence on the nervous system, and through this upon the circulatory and trophic systems. On these it acts as a paralysing and inhibiting agent. Hence, if it is desired to diminish the vitality of cells, whether nuclei or wandering leucocytes, it is necessary to give such quantities as will be seriously injurious to the processes of animal life. To effect one's object we must well-nigh poison the patient.

But alcohol has a powerful influence on the processes of excretion. It diminishes the amount of carbonic acid, probably by interfering with the gas-carrying capacity of the blood corpuscles, and the urea is diminished also. Such interference with excretion is manifestly risky and must tend to diminish the power to throw off fever and its products.

These, however, are only suggested explanations of what I firmly believe to be the fact, viz., that alcohol does harm rather than good, and that the part of the physician is to see that real food, either digested or in its usual form, is supplied in sufficient quantities.

I have never found any difficulty without alcohol in enteric fever after the crisis, and believe that even in collapse from hæmorrhage alcohol is contra indicated. I altogether disbelieve that alcohol can keep a heart going which would not have gone on without it, and we are certain that reactionary fever after hæmorrhage is almost entirely due to the administration of alcohol: when that is not given, there is little or none.

I cannot help a comment on Dr. Collie's sample case of enteric fever which he adduces as a conclusive argument for the

nutritive value of alcohol. He states that a patient lived for three whole days on champagne and ice, and for nine more on the same with the addition of a little brandy and one or two pints of beef tea. Is it right to forget that champagne contains a large quantity of *sugar* in addition to the alcohol? It is not only credible but a matter of common observation, that if fluid be supplied, life can go on for many days in the absence of food, much more when sugar and beef tea are supplied: and fever patients seem to bear starvation far better than one would *à priori* expect. Considering all these things I am by no means prepared to admit that Dr. Collie has said the last word on the subject.



DR. COLLIE'S PAPER ON ALCOHOL IN FEVER.

(From the "*Lancet*," December 18.)

Dr. COLLIE, medical superintendent of the Eastern Hospitals, has been courageous in advocating good wine, in proper quantities, in those hospitals. He has defined his views in a paper in the *Practitioner*, vol. xxxvii., No. 5. He admits that alcohol is not required in the mildest cases of fevers, nor in the severe if the patient be taking a sufficiency of food, nor generally in young adults of the well-to-do classes. These are great admissions for Dr. Collie to make; but in opposite circumstances he maintains it is more or less necessary, and we advise our readers to consider his opinions. Briefly, in the chief fevers, to which his authority applies, they are as follows: In *typhus*, alcohol is rarely required for children or adults under thirty; but after this age it is required, and often in considerable quantities. It may be dispensed with early in convalescence, as solid food can be taken as soon as the temperature falls. In *scarlet fever*, alcohol is not required, as a rule, at any period of the disease. But in very poor children in early convalescence, with abscesses or brawny neck, alcohol in the form of port wine is indicated. He considers port, say four to eight ounces, good for children of the age of from four to six. For procuring sleep it is better than opium. In enteric fever the chief value of alcohol is during convalescence, where solid food cannot safely be taken for from ten to fourteen days from the return to normal temperatures. Alcohol is contra-indicated in cases of hæmorrhage unless collapse has resulted. Burgundies and champagne of well-approved brands are, he thinks, the best forms. Let Dr. Collie's opinions be considered in their entirety, and before our teetotal friends reject them contemptuously, let them pass through six weeks of the diarrhœa and fever of typhoid.

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Enfield, December, 1886.

J. J. RIDGE, M.D., *Hon. Sec.*

THE PUBLIC-HOUSE AND THE PUBLIC HEALTH.

A GENERAL meeting was held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Tuesday, November 30, when the President, Dr. B. W. Richardson, delivered an address, entitled, "The Public-house and the Public Health." There was a good attendance of members and others.

The PRESIDENT referred first of all to the statistics of mortality in regard to hotel and inn-keepers and publicans; published in 1871, and said they were still maintained by those of 1881. If anything, mortality occurring amongst hotel-keepers and persons connected with the sale of strong drink had increased rather than diminished. Dr. Ogle, speaking of this class, said mortality amongst persons engaged in the liquor traffic was appalling. Dr. Ogle also referred to the causes of increased mortality from alcoholic excess. The inn-keeper led the way in alcoholism, liver disease, and gout. He was also high up in nervous diseases, suicide, and diseases of the urinary organs, but in diseases of the circulatory system, he came a good way down. We thus saw that within the hotel itself we had the inn-keepers taking the lead with regard to mortality, and about that there could be no doubt. Should there be any suspicion thrown on the mind that some other agency was at work in producing this high mortality and these particular diseases, that doubt was removed by the circumstances which had attended the life of the grocer. When the tables first came out the grocer was one of the healthiest men in the kingdom, but afterwards he began to show a decline. Dr. Farr, before he died, pointed out that this decline commenced from the day when the grocers began to sell strong drink. The grocer in the last census stood near the draper. Before that the draper had a life worse than the grocer, the reason being because he was living in a close shop, inhaled a deal of fluff, and often died from consumption and lung diseases; whereas the grocer dealt with dried goods, his

door was always open, and he himself was ever going briskly about. The grocer was coming nearer the inn-keeper than he was before. What would be the change in the general mortality, supposing all the world could be brought into the condition of the hotel and inn-keeper? Suppose there was a village where the mortality was down to ten in a thousand—it these persons were to live the life of the publican, the mortality would at once rise to fourteen. If the mortality were twenty it would rise to twenty-eight, and if the mortality of London were thirty in the 1,000, as it had been in his recollection, and if the people were all changed into inn-keepers, the mortality would rise to forty-four. Therefore, there was in the public-house itself a centre where much of disease arose beyond what affected the rest of the community, and we knew precisely the character of the disease—alcoholism generally, liver complaint, gout, nervous diseases, suicide, diseases affecting the kidneys, and diseases of the circulation. Dr. Ogle had omitted all reference in regard to public-house diseases with chest disease. He seemed to think there was no excess of chest disease amongst the publicans; but afterwards, in a general way, he stated that no doubt there was a distinct form of consumption produced by strong drinks, but which was not attached specially to the publicans. He (the president) had first pointed out the disease which was called alcoholic phthisis, or consumption of drunkards. It commenced with a spitting of blood, and ran on a very determinate and rather rapid course; and eliminating all other causes, from that he was able to trace those cases back to alcoholic origin. That had been referred to by Dr. Farr several times, and also by Dr. Gairdner, of Glasgow, and it seemed to be now an accepted fact, but Dr. Ogle did not specially connect the publican's life and illnesses with that disease. He (Dr. Richardson) thought it should be included. It had been his lot to

ee a larger number of publicans than any other class suffering from that particular form of disease. He did not think they suffered more from bronchitis than the rest, but they did from this particular form of phthisis. He had known as many as ten cases in a year of the kind, and occurring rather late in life. With that exception he could agree with all that Dr. Ogle had said. The public-house was a centre of special disease, which led to a very large and definite mortality—a mortality which placed the publican class highest in the death scale—not even excepting those who might be considered the most neglected classes. It would be interesting to trace out whether the children born in the public-house inherited the particular diseases of their parents. That was an open question, and he had no data upon which to speak. Now he came to the public-house as a centre of infection. Upon this also he could give but little information. As a centre of mental disease, he thought the public-house, undoubtedly, occupied a prominent place. All the mental diseases springing from alcoholic excess, were largely favoured by the presence of the public-house. The wild, the frantic, and the ungovernable, who were not in our resorts of safety, went to the public-house. They began the evil in the public-house, and that became to them a kind of centre. If we could remove the public-houses, we could easily deal with dipsomania. They now knew there was a distinct form of alcoholic epilepsy. In his experience, the cases that occurred in the streets had always occurred near public-houses. He had eleven times to his clear recollection seen epilepsy at the doors of public-houses. Hypochondriacs and a good many of the partially insane constantly congregate there and found what they desired—a centre of the wildest talk and manner. Suicide seemed to be very closely connected with the public-house, and this, he thought, was the more so where gambling went on, as it did by means of such games as pool and pyramids. Lastly, the public-house was the centre of physical degrada-

tion of body springing from alcohol and it was the cause of a great mortality from the diseases which depressed the spirits. He could say from long experience that no patients were so bad in any and every form of disease as those who had become the *habitués* of the public-house. They most easily succumbed to any sort of disease from which they might be suffering. He did not remember one of them that had escaped an attack of cholera or typhoid fever. He spoke as the result of large experience and careful reflection. When nearly twenty years ago he said that alcohol caused a larger mortality than any other disease—a mortality of 50,000 a year—the statement was called extreme; but he had lived to see it fully confirmed. If now he stated that the public-house in relation to the public health would be found to account for one-third of the deaths by the direct and indirect evils it inflicted, he would feel sure he was not above the mark. It might be asked, Can this point be tested? Yes; it could. Let the Registrar-General be supplied with the numerical rate of public-houses in our great centres and compare the death-rates by the sides of such houses in proportion to population—a city of one public-house to every 200 people by the side of another with one public-house to 2,000—then he was prepared by the resulting analysis to stand by the figures he had prognosticated; that was to say, that where there was the highest mortality one-third of it might be traced to the public-house. He thought that this society might memorialise the Government on the subject, and ask them to take it in hand. They might make this evening memorable by inaugurating the first step in an inquiry so entirely national that, though he waited with interest the remarks of his hearers, he would regard it as the *summum bonum* of their conference.

Dr. NORMAN KERR said that individually he had great respect for the publicans. He had met men of the highest accomplishments, men of the purest lives, and men of unsullied character amongst them, and men

who were endeavouring to conduct a most perilous business in the best possible manner. They were confronted with the large number of widows who were the owners of licenses. Potmen were very subject to chest disease, and this remark applied also to omnibus and cabmen, who were often obliged to pull up at public-houses. The two latter classes were much benefited by their open-air occupation, which enabled them to some extent to resist the effects of drink. He had never seen a case of alcoholic phthisis, nor had he seen a case of epilepsy inside or outside a public-house, so that the chairman's experience might be a mere coincidence. In Glasgow, when cholera was raging, the mortality rose 200 a day after the commencement of the Christmas festivities. As to dipsomania, he thought it ended at the public-house, and did not commence there. He thought that there could be no doubt that public-houses were centres of disease.

Dr. WALTER PEARCE said that, in his experience, the most terrible cases of infection in disease had been directly associated with the public-

house. The public-house was also a direct factor in promoting diseases caused by lapses from virtue.

Dr. RIDGE, hon. secretary, called attention to the heavy mortality in drinking clubs—that is, clubs which held their meetings in public-houses. He proposed the following resolution: "That we, as a society, memorialise the Government to institute an inquiry into the extent of disease and mortality produced directly and indirectly by the public sale of intoxicating drinks."

In seconding the motion, Dr. MOR-
TON observed that we should be very careful we did not speak of publicans in such a manner as to end by driving all respectable persons out of the trade.

The motion was put to the meeting, and carried unanimously.

The PRESIDENT briefly summed up the debate, and said he noted two important points raised by Dr. Ridge and Dr. Kerr—first, the great mortality amongst public-house clubs, and, secondly, the number of houses must be looked at in relation also to their size.

The proceedings then closed.

CONFERENCE WITH MEDICAL STUDENTS.

ON Tuesday, December 14, a conference was held in the Lecture Hall of the National Temperance League, to which medical students from the schools in the metropolis had been invited. The conference was called by the Council of the British Medical Temperance Association, with the object of forming a committee of associates to promote the adoption of total abstinence among the students. In the unavoidable absence of the president, Dr. Norman Kerr took the chair.

The hon. secretary, Dr. RIDGE, stated that similar committees had been formed in Dublin and Edinburgh, with the result of largely adding to the membership of the Association. Total abstinence was desirable for

students, both for their own sakes and for the sake of the influence which they would exert on the public when they were duly qualified. It was much easier to study without alcohol, as he had himself proved, and total abstinence was as valuable for mental athletics as for corporeal. St. Paul had said that those who strive in the games are temperate in all things, and hence "temperance" in St. Paul's view included total abstinence from alcohol. It was easier to start in practice as abstainers than to alter afterwards, for that required an admission of having been wrong, which required more than an average share of moral courage. It was hoped to obtain a representative from each hospital on the committee.

Mr. H. A. W. CORYN (Charing Cross Hospital) moved, and Mr. O. E. HIGGENS (St. Mary's Hospital) seconded, "That it is desirable to form a Committee of Associates of the British Medical Temperance Association (English Branch) attending the London Medical Schools.

The resolution was supported by Professor VICTOR HORSLEY, F.R.S.,

who spoke of the immense public influence which medical men could wield, both politically and socially, in promoting sobriety.

Dr. W. PEARCE, B.Sc., also supported it, giving his experience of the advantages of total abstinence among the Indians of Mexico and elsewhere.

The resolution was carried unanimously.



Society for the Study and Cure of Inebriety.



A DOUBLE RECEPTION.

ON Tuesday, 11th October, at the quarterly meeting of the Society, held in the rooms of the Medical Society of London, a double reception was given to Dr. Simon Fitch, of Halifax, Nova Scotia, and Mr. Axel Gustafson, author of "The Foundation of Death." There was a large attendance, and the proceedings were of an interesting character. The President, Dr. Norman Kerr, occupied the chair.

The CHAIRMAN said that they were honoured with the presence of one of the most distinguished members of the medical profession in the Dominion of Canada, Dr. Simon Fitch, of Halifax, Nova Scotia. He did not know it had ever been that they had had one of their members of Council for that distant colony here with them in the flesh as they had the pleasure of seeing Dr. Fitch here to-day. Dr. Fitch was an old and valued friend of his, and, moreover, he came from a colony where ample provision had been made for inebriates—a provision which, as we all knew, was lamentably deficient in the United Kingdom. He concluded by proposing the following resolution:—

"That this meeting of the Society for the Study and Cure of Inebriety welcomes in their midst their fellow member and councillor—Dr. Simon Fitch, of Halifax, Nova Scotia; hails with special pleasure the presence of

this esteemed representative of a British colony which has made legislative provision for the efficient care and control of diseased inebriates, both on their voluntary application and on compulsory committal to a home for inebriates; and trusts that the legislature of the mother country will speedily enact a thorough-going and permanent measure for the protection of the families of the intemperate, as well as for the enforced treatment (if necessary) of the habitual drunkards themselves."

Dr. WALTER DICKSON, a very old friend of Dr. Fitch, seconded the motion. All medical men were aware, he said, of the importance of this question, for they saw victims of drink destroyed who might be saved did the proper means exist for dealing with them.

Dr. FITCH, in replying, said he was wholly unprepared for this honour and this kindness. In America they were in a much better position to care for inebriates than here. Public opinion in England was, however, calling for similar powers here, and the cry for help came from the victims themselves as well as from their friends. It was most important to deal with the inebriate in the very earliest stages of his disease, and, in fact, at that time he could do much for himself, whereas further on his will power was dimin-

ished. It was better to give the pledge for a short time, so as not to put too great a strain upon the resolution of the individual.

The PRESIDENT reminded the meeting of the rise and progress of the Society, and called attention to the valuable services Mr. Gustafson had rendered, particularly by his work, "The Foundation of Death," which was now passing through a fourth edition, and which had been, and was being, translated into several languages. His book was remarkable, especially in this, that even the medical and chemical parts showed a wonderful appreciation, from a lay point of view, of the great principles of physiology, chemistry, and pathology. He had just returned with his wife from a considerable tour in America, where he met with a warm reception. He closed by proposing the following resolution:—"That this assembly of the members and associates of the Society for the Study and Cure of Inebriety cordially welcome their fellow-associate, Mr. Axel Gustafson, author of that important work, 'The Foundation of Death,' on his return from America; and venture to express the hope that he may long continue to dedicate his high literary accomplishments to the attainment of adequate legislation in the interests of the inebriate and for the prevention of inebriety."

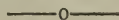
The Rev. Canon BARKER seconded the resolution, and congratulated Mr. Gustafson on the title he had chosen for his book, and confessed that he

had learned more from that book than almost any other that had been written on the temperance question. He suggested that a cheap edition at 1s. should be brought out, and predicted for it a commercial success. The only cure for dipsomania was total abstinence, and in order to bring this to success the victims must be locked up. He gave the President the credit of having done more to bring about proper legislation upon this subject than any other individual breathing. He closed with the expression of a hope that Mr. Gustafson might live to see this country and the world emancipated from the curse of drink.

The Rev. Canon LEIGH briefly supported the motion, which was carried by acclamation.

Mr. AXEL GUSTAFSON, who was loudly cheered, said it was not easy for him to find words which would in any way express the feelings of gratitude that were swelling up in his heart. He felt a great deal of difficulty in knowing how to speak of this drink problem, for his mind was overwhelmed with its magnitude, and the issues involved in its solution. Owing to Dr. Kerr's imperative orders he went to the United States for rest, but the warmth of the reception awarded him made him do more work than he should have done. As far as God gave him power he would try to deserve the extreme kindness that had been shown him to-day.

The proceedings were then brought to a close.



ALCOHOL AND MUSCULAR WORK.—Drs. Mosso and Maggiora, two eminent Italian physiologists, have recently been overhauling the influence of various foods and other substances upon muscular work, and by novel and ingenious methods have confirmed in a most conclusive manner "the induction that alcohol, so far from aug-

menting muscular energy, positively diminishes it." This is a most important result, and one that temperance workers everywhere ought to make valuable use of. The sooner the popular error respecting the food value of alcohol is thoroughly exposed, the better it will be for the rising generation.—*Good Health*,

Miscellaneous Communications.

THE MEDICAL ASPECT OF THE TEMPERANCE QUESTION.*

By DR. JOHN MOIR, L.R.C.P.Ed., *West Ham.*

THE nineteenth century is fast drawing to a close, and it will be interesting to its survivors in the twentieth century, now within measurable distance, to look back on the great movements in the world's history which have taken place in this epoch-making century. The discovery of the motor power of steam, the invention of gas, the electric telegraph, the telephone, the railway system, the Suez Canal, the opening up of Africa, the discovery and colonisation of Australasia, the discovery of gold, sanitary science, with the consequent increase in the average longevity of the human race, to say nothing of the rise and fall of empires, including the wondrous development of the United States of America, the development of missionary enterprise, and the countless other factors which will ever render the nineteenth memorable amongst the centuries: all these, great and wonderful as they are, would be an incomplete and partial record, were not due note taken of the rise and progress of the great temperance reform, which has now for fifty years past been making headway against the giant drink evil; and, begun in a humble way by a few working men, as many other as great or even greater reforms have been, has grown into a movement patronised and professed by the upper classes in many notable instances, by the churches, and last of all, though perhaps not least, by the medical profession, including its greatest and most trusted leaders.

Though Dr. Lees, Professor Miller of Edinburgh, Dr. McCulloch of Dumfries, and Dr. Higginbottom of Nottingham, were the pioneers of this

great movement in the medical profession, and long stood almost alone, like great solitary lighthouses, showing the path of safety, their views and teachings, examined and experimented on by such men as Anstie and Parkes, have culminated in a general consensus of this vital medical truth, that in the once powerful and universally trusted agent alcohol resides no virtue either as food or nourishment. Sir Andrew Clark, Sir Henry Thompson, Sir William Gull, Drs. Benjamin Ward Richardson, Norman Kerr, Ridge, Edmunds, Drysdale, Morton, and others too numerous to mention, concur in one opinion, that alcohol is an anæsthetic like chloroform and ether, a narcotic poison, which has no place in the economy in health, being in its proper place only on the druggist's shelf, along with opium, arsenic, strychnine, chlorodyne, chloral, and the other drugs I have mentioned, requiring also equally careful prescription and administration.

So protean are the evils and so many the aspects of the drink question, that it is utterly impossible in one evening to take them all up, even if I were competent, as I am not, to deal with them. But knowing something, as I do, from education and experience, of the medical aspect of the temperance question, I would ask you with me to confine your attention this evening to a slight and necessarily imperfect and incomplete sketch of this branch of the subject.

It is singular, indeed, that while in the case of every other drug the medical profession is not satisfied until all its therapeutic, physiological, and pathological properties have been investigated and thoroughly demonstrated, they have with one accord accepted alcohol on trust as a reliable agent under all circumstances, a sti-

* Inaugural Address of the President of the Temperance Hundred of North West Ham, October 22, 1886.

mulant, a food, a source of heat, renewed life, vigour, force, strength, and energy; whilst in truth and all the time it is not and never has been any one of these, but directly the opposite. The poets are much to blame for this with their praises of wine, Bacchus, &c., though Shakespeare wrote it down; but that scientific, accurate, painstaking, and observing medical men in other fields of medicine should take this one drug on trust, seems to us, with our present knowledge, passing strange indeed; so strange that we must needs examine briefly the argument in its favour, before reverting to the real facts of the case, and placing before you, as shortly as possible, the scientific results, absolutely demonstrating, not only the inutility of alcohol, but its positive hurtfulness, and proving that from a medical aspect temperance, or total abstinence rather, is the only safe and scientific remedy against the evils and diseases, psychical and physical, caused by the use, much more than by the abuse, of alcohol.

The great argument for the use of alcohol, it seems to me, is that it was good for our forefathers, and was used by all the great nations of antiquity, as well as by the most civilised, foremost, and strongest nations of to-day, and therefore it must be good for us if moderately used and not abused; the abuse and not the proper use of alcohol as a beverage being the cause of all the misery and crime, as of all the diseases produced by it, whilst its moderate use is beneficial to health, social intercourse, and good fellowship between man and man, alleviating also disease, allaying pain, and effecting marvellous cures where all other remedies have been of no avail.

This however, is not the case; you may take it as a maxim, worthy to be followed throughout life, never to use spirits of any kind, or beer, or wine, except as physic. Alcohol as a beverage is quite unnecessary in health, and even in quantity less than that usually styled moderate—that unknown quantity varying, according to the individual fancy, from half an ounce to three and a half ounces or more of

pure spirit daily—is usually hurtful, and its benefit very questionable even at the best. We know for a certainty now that disease is produced by the moderate use of alcohol never carried to intoxication, and that gout and other alcoholic mischiefs are more frequent amongst drinkers of alcohol in quantities not usually considered excessive than amongst those habitually exceeding the limits of moderation. The effects of alcohol, unlike those of other substances, have been but little studied in the lower animals, man alone being addicted to its use; but in the lower animals who have been taught this pernicious habit a savage, uncontrollable temper prevails, dangerous to all in contact with them, having its daily counterpart in the savage brutalities of the depraved and brutalised drunkard.

Alcohol is not a food in any sense of the word; the only food it contains is the small modicum of sugar and the water mixed with it, and to get any nourishing property out of it, long before he got a decent meal, the person who took it with that object would be dead drunk. Food or nourishment from alcohol, then, is out of the question. It is not a heat-giver; on the contrary, it always robs the body of its vital heat, as our Arctic voyagers have long since discovered: whatever else has been the result of their discovery, this one they have thoroughly established. From its affinity for water it coagulates albumen, and thus retards digestion by turning the soluble peptones into solid albuminous substances. It also abstracts moisture from the body, as anyone the morning after a debauch speedily discovers for himself. This produces an insatiable craving for more, ending in loss of the moral faculties, habitual drunkenness, delirium tremens, paralysis or apoplexy, and death, or else in total abstinence and recovery.

All the various forms of alcoholic stimulants are simply luxuries, and not necessities, being always and only the products of destruction and fermentation, and the inevitable producers of indigestion, and all the varied forms of dyspepsia, biliousness, liver

and kidney derangements, with headaches and aching limbs, general lassitude, and unfitness for business, if nothing worse follows; but too often these are but the commencing links of a long series in "the devil's chain;" the poisonous narcotic imbibed in so many alluring and destructive forms, the potency and charm of all, from the costly champagne to the humblest ale, is dependent on one thing alone, the presence in them in more or less degree of the irritant narcotic poison, alcohol. The only safeguard against its evil effects is total abstinence, which can never produce a drunkard, whereas moderate drinking can, and too often does. As Mr. Startin, of Charing Cross Hospital, remarks:—"Alcohol is indeed a mocker. It promises us strength, and mocks us with weakness. It promises us endurance, and mocks us with faintness. It promises us substance, and mocks us with shadow. It promises us heat, and mocks us with cold. It promises us moisture, and robs us of the moisture we already possess. It promises us life, and mocks us with premature death." In the extreme cold of the Red River expedition in Canada, and in the extreme heat of the Ashantee, South African, and Egyptian expeditions, General Lord Wolseley found that his soldiers did better without it, and has published his testimony to the world. In addition to the acquired diseases induced by alcohol, by the law of heredity, diseases of body and mind, through alcoholic taint, are transmitted to the offspring of the chronic inebriate, and it stamps on posterity, with indelible hand, an inherent craving for the deadly narcotic which is the cause of so many diseases. Some 40,000 deaths occur annually in the United Kingdom from this cause alone, and its indirect effects are much more widespread; and at least 120,000 deaths each year are due to its influence. If even once in a year, thirty or forty deaths are caused by an explosion or the flooding of a mine, the whole heart of the nation is stirred to its depths, but a daily death-rate every year far exceeding this, due directly or indirectly to strong drink, excites

no surprise and hardly any comment, although the combined ravages of war, pestilence, and famine do not surpass it. With regard to the effect alcohol has on the several organs of the body, we find that it has a direct specific action on the skin, and specially on the capillary circulation by abstracting heat from the body and drawing it to the surface, as we see it in the mottled cheeks and red nose of the drunkard. It produces two-thirds of the cases of gout and rheumatism; and, going directly into the stomach and large intestines, it inflames their living membranes, or coats, causing them to lose their elasticity and permeability, and thus produces dyspepsia, hypochondria, and the evils which follow in their train. Then it enters the liver, and afterwards the heart and lungs, producing heart disease, congestion, bronchitis, the well-known hoarse and husky voice of the drunkard, inflammation of the throat and wind-pipe, pneumonia, and consumption. The final resting-place of the poison is the brain and general system. From its action on the brain, "paralysis of judgment follows;" the drunkard is never to be trusted, and even if merely excited by drink to an extent far short of drunkenness, the edge of his faculties has been blunted by the paralysis of the vaso-motor nerves, which control the circulation of the brain, that is, which feed it. Even after death alcohol is frequently found in the ventricles; that is, in the cavities of the brain itself, and is a frequent cause of apoplexy and death.

Insanity, paralysis, and epilepsy, descending to the offspring, are frequently the fearful consequences, not only of drunkenness, but, as Sir Henry Thompson says, of drinking far short of drunkenness. What a superstition, then, is it to consider alcohol a food or a necessity, when its actions on the system are what we have seen; and, bad as they are in men, they are worse in women, owing to their more delicate nervous organism, and the greater demand in their system during the nursing period for a true food, which alcohol is not. Dr. Richardson has pointed out in his papers on "The

Action of Alcohol on Asthenia of the Heart," that nursing women are too apt to trust to this broken reed and deceitful remedy, to their everlasting undoing; and here, more than in any other instance, the greatest responsibility rests upon the physician, who, if he is a true physician, must also be a true psychologist; the advice of the doctor is too often the first step towards a fatal, irresistible tendency to become a victim to the ravages of drunkenness. Such being the case, Sir Andrew Clark asks, "Is it possible then that the teaching of science and the dignity of our profession, any more than the calls of patriotism, humanity, love to our neighbour, morality, and religion, can prove that we are wrong when we advise those that come into contact with us, as patients or in other capacities, to abstain from the poisonous and pernicious use of alcoholic drinks? We cannot define health, for it is indefinable. Health is that state of our bodies in which the functions of it go on without our notice or observation, and in which existence is felt to be a pleasure, in which it is a kind of joy to see, to hear, to touch, and to live. That is health! Now, let me tell you that is a state that cannot be benefited by alcohol in any degree; indeed, it is a state which, nine times out of ten, is greatly injured by alcohol. It is a state which often bears alcohol without any sensible injury, but, I repeat to you, it is not one which can in any way be benefited by alcohol. It can bear it sometimes without obvious injury, but be benefited by it—never! And I venture to tell you that there is a certain joy of existence, a sense in which one feels what a pleasure it is to look, for instance, upon green fields and happy birds, to hear pleasant sounds, to touch pleasant hands, to know that life is a satisfaction—this is a state, in my opinion, which is always injured in some way or other by alcohol." Let us look for a moment on the reverse picture, drawn by another master in our art, the genial autocrat of the breakfast table, Dr. Oliver Wendell Holmes. "Our brains are seventy-year clocks, The Angel of

Life winds them up once for all, then closes the case, and gives the key into the hand of the Angel of the Resurrection. Our will cannot stop the wheels of thought; they cannot stop themselves; sleep cannot stop them; madness only makes them go faster; death alone can break into the case, and seizing the ever-surging pendulum, which we call the heart, silence at last the clicking of the terrible escapement which we have carried so long beneath our wrinkled foreheads. Will nobody block those wheels? What a passion comes over us sometimes for silence and rest!—that this dreadful mechanism, unwinding the endless tapestry of time, embroidered with spectral figures of life and death, could have but one brief holiday! Unless the will maintain a certain control over these movements—which it cannot stop, but can to some extent regulate—men are very apt to try to get at the machine by some indirect system of leverage or other. They clap on the brake by means of opium; they change the maddening monotony of the rhythm by means of fermented liquors. These coarse tools alter its rate of going for awhile, and at last spoil the machine. Poets and artists, who follow their imagination in their creative moments are too apt to call in the mechanical appliances to help them govern their intellects. The way to argue down a vice is, not to tell lies about it, to say that it has no attractions, when everybody knows that it has; but rather to let it make out its case just as it certainly will in the moment of temptation, and then meet it with the weapons furnished by the Divine armoury. (The habit of drinking is often a vice no doubt; sometimes a misfortune, as when an almost irresistible hereditary propensity exists to indulge in it; but oftenest of all a *punishment*. Empty heads—heads without ideas in wholesome variety and sufficient number to furnish food for the mental clockwork are the ones that hold the brains which their owners are so apt thus to tamper with. The fatal habit settles on him like a vampire, and sucks his blood, fanning him all the while with its hot wings

into deeper slumber or idler dreams! I am not such a hard-souled being as to apply this to the neglected poor, who have no chance to fill their heads with wholesome ideas, and to be taught the lesson of self-government. I trust the tariff of heaven has an *ad valorem* scale for them—and all of us. Before any vice can fasten on a man, body, mind, or moral nature must be debilitated. The mosses and fungi gather on sickly trees, not thriving; and the odious parasites which fasten on the human frame, choose that which is already enfeebled. The lassitude of tired-out operatives, and the languor of imaginative natures in their periods of collapse, and the vacuity of minds untrained to labour and discipline, fit the soul and body for the germination of the seeds of intemperance. Whenever the wandering demon of drunkenness finds a ship adrift, no steady wind in its sails, no thoughtful pilot directing its course, he steps on board, takes the helm, and steers straight for the maelstrom. I wonder if you know the *terrible smile*? There are persons who no sooner come within sight of you than they begin to smile, with an uncertain movement of the mouth, which conveys the idea that they are thinking about themselves, and thinking, too, that you are thinking they are thinking about themselves, and so look at you with a wretched mixture of self-consciousness, awkwardness, and attempts to carry off both, which are betrayed by the cowardly behaviour of the eye and the tell-tale weakness of the lips, the consciousness of imbecility, that characterise these unfortunate beings.”

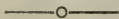
Contrasting these two pictures, we will be the better able to appreciate the correctness of Dr. Parkes's experiments, in which he found that in a healthy man with only one fluid ounce of alcohol, the heart beat 430 times more in the day, and with two fluid ounces it beat 1,872 times more, or extra work equivalent to lifting a ton weight a certain height per day. This extra excitement of the heart is highly injurious, for “a heart which is beating more quickly than usual, wears itself sooner out than one which is act-

ing slowly.” The fact is, as Dr. Burdon Sanderson remarks, “the human race would be situated just as favourably if the use of alcohol did not exist: the evils certainly preponderate over the benefits.” Sir Henry Thompson, in reply to the question whether we should all be better without drinking alcohol at all, says, “All is a very comprehensive term, but I think the great majority of persons would be better without it. I conform to that principle myself, and act solely with a view to obtaining the best possible health.” These are cautious utterances, but they are nevertheless a sufficient condemnation of the use of alcohol.

There is no time left to consider the medical aspect of the use of alcohol in disease, but the records of the London Temperance Hospital are of immense practical educational value in proving that it is as useless in the treatment of disease as it is in the maintenance of health; and I now close this paper by stating that it is possible that a case may occur now and again where no substitute might be quite equal to alcohol in all respects in the treatment of disease, although even here there is no certain ground for the sole of the foot of the alcoholic treatment to rest upon, for, at the best, all we can say for it is that in fevers, in small-pox, in consumption, &c., all the tissues waste, first the fat, then the muscles, and alcohol prevents this waste, and seems to act as a restraint on it, at a time when the patient is too weak to take any food. The cause of this waste of the tissues is that they are used up or burnt in the process of respiration; alcohol takes their place, and supports respiration, when the stomach is too weak to prepare and assimilate any kind of food for that purpose. This, as I have shown in the *Medical Temperance Journal*, July, 1883, is the true, and almost the only place of alcohol in the treatment of disease, yet Dr. Bernard O'Connor has treated consumption for fourteen years in the Consumption Hospital with better results without alcohol than with it; Dr. Birdwood has reduced the mortality of small-pox in the Float-

ing Hospital Ships of the Metropolitan Asylums Board to 6 per cent. ; and Professor Gairdner, of Glasgow, and others have obtained better results from the milk treatment of fevers than from the use of alcohol, so that Dr. Burdon Sanderson is doubtless correct

in stating that "the human race would be situated quite as favourably if the use of alcohol did not exist," and we can all agree with him, that "the evils certainly preponderate over the benefits."



MEDICAL MEN ON SANITATION AND TEMPERANCE.

WHEN the Sanitary Institute of Great Britain held its Annual Congress at York, in September last, the National Temperance League invited the members to breakfast, followed by a Conference which was presided over by Mr. Arthur Pease, J.P., and addressed by the Rev. Canon Fleming, both Vice-Presidents of the League.

Mr. F. VACHER, F.R.C.S., Medical Officer of Health for Birkenhead, said : Mr. Chairman, you have already referred to the relationship which exists between sanitation and temperance. I think that that relationship is best brought out with respect to the office both performs of saving life. You have read, and some of you have heard, the fact so ably brought out in the address of Sir Spencer Wells last night, that in recent years there has been a saving of life amounting to 8,000,000 souls. Now, he says, it is a fair estimate to consider that a quarter of those have been saved by sanitation, and putting a life at the value of £150, we thus have a saving of £300,000,000 sterling. That is a little more than double the ordinary expenditure in drink. I think it would not be unreasonable to state that temperance probably saves quite as many lives as sanitation, and that it is reasonable to assume that two millions of this great saving has been mainly, if not entirely, by temperance, and therefore we can put to the good the same sum which he can carry to sanitation, and we may claim to have saved in human life a sum also of £300,000,000. You have alluded with regret to the absence of Dr. Carpenter. I am sure no one

can feel that regret more than I do. I have at these meetings heard him speak most ably on this question of temperance, and he has had such a long experience and has done so much to advance temperance amongst medical men that he speaks with very great authority. Speaking myself for the medical profession, I feel how very inadequately I can assert what I would wish to say. I am reminded of a story of Douglas Jerrold. He told how an old actor once came to him and said, "Young man, have you sufficient confidence in me to lend me a guinea?" Douglas Jerrold said, "I have all the confidence, but I haven't the guinea." I feel that I have all the intense belief and confidence in temperance and total abstinence that even Dr. Carpenter has, but at the same time I have not the ripe experience which would give weight to my opinion and point the lesson I wish to teach. However, my experience in the profession extends over between twenty and thirty years, and I have been led to form the opinion that there are three definite ways in which temperance has manifested itself in that profession within my own time. In the first place, men who believed in temperance and abstinence in the profession have now the courage of their opinions. Twenty-five years ago they had not. I was once at a public dinner, sitting not far from the chairman, and a good many toasts had been drunk. The chairman appeared to be drinking what I judged to be brown sherry. He was a medical man, and he is long since dead. Noticing that I was drinking

nothing, the toastmaster came to me and said, "Perhaps you would like some of the chairman's bottle." I said, "I never take wine." The man replied "It's only toast-and-water—nobody don't know it." (Loud laughter.) I think if that chairman had had his lines cast in more recent times, he would have had the courage of his opinions, and would deliberately have drunk water and not some got-up decoction made to look like brown sherry. In the second place, I think we notice the effect of temperance upon the medical profession by the way in which they now abstain from dosing children with alcohol. Many years ago, when I was house-surgeon to the Royal Maternity Hospital, founded by the late Sir James Simpson, we had a good many poor mothers, in whom now we should think it a very sad thing to encourage intemperance, and we were ordinarily in the habit of giving them stout to nurse their children with. They came to us in a very poor condition, and were not in a very good case to nurse healthy children, and, therefore, we had recourse to what, I believe, was called "nursing stout." Some brewer got out some stout under that name. More recently I was examining some medicines which are given to children to quiet them. I examined several, and came to one, the label of which said, "No opium or other narcotic is used in this." I was interested in this, especially as it was recommended by a great many testimonials as being an unfailing soother. I wondered what could be the principal ingredient, and the principal ingredient proved to be strong alcohol. We have noticed, too, that boys at school are not now ordered by the doctor Bass's ale, and things of that kind, as they used to be in my time. I think it is very rarely, indeed, that a medical man will go into a family where there are weakly growing boys and girls, and order them glasses of Bass's beer and port wine, as used to be done, almost regularly, in early days. There is a third way in which the temperance question has influenced medical practice, and that

is in the treatment of disease. When I was at the medical schools I was taught that alcohol was useful in many diseases, but that it was the sheet anchor in such diseases as pneumonia, fevers, cholera, &c. I think that we have now arrived at a very different opinion from that. I often treat pneumonia, and never use alcohol. I have been running a fever hospital for over ten years, and have had a great many cases of typhus fever and small-pox, but have never ordered one single ounce of brandy or alcohol of any kind, and my results, I beg to state, are at least equal to the results of any man in my town or district. When I took out the results of the recent small-pox epidemic I found that they were a great deal better. I think there is scarcely a disease for which we used to think alcohol necessary that we cannot treat now equally well or better without it. No doubt alcohol may be a good rough-and-ready remedy, when you do not happen to have the pharmacopœia at your back, but where you have you will find something that will do what alcohol cannot do. If you want a diffusible stimulant you will find something far better than alcohol. If you want something to quiet the stomach you will find something better than alcohol. Therefore I think this question has come to the fore, and we should do all we can for it. There is a saying with which I would conclude, and which we owe, I think, to Archbishop Whately: "When a thing has to be done you should be prepared with a very good reason why you are not the man to do it."

Surgeon-Major PRINGLE, M.D., India, said: Having spent thirty years of my life in what may be called a total abstinence country, I have had a certain amount of experience, and seen the injurious effects of total abstinence if there are any. I can only say I feel that what has been said by the last speaker embodies absolute fact in regard to the treatment of disease. The medical profession is now becoming alive to the immense importance of such truths as he has stated. I suppose I have seen as much cholera

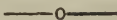
as it falls to the lot of most people to see, and I must say that in the army many years ago the giving of stimulants was almost a fatal treatment. God grant that we may be spared an outbreak of cholera here, but I do trust if it does reach us the subject of stimulation by alcohol will come up. During cholera there is little or no absorption of that which is taken, and I have seen quantities of stimulants put into the stomach, and then, if they have been retained at all (though frequently they are almost compulsorily given forth), then nature, having succeeded in throwing off the poison, and striving to recover herself begins by absorption, and the first thing she absorbs is the alcohol, which completely shuts up her whole future efforts. It is a fact that can be proved to demonstration. When absorption takes place you hear of these cases, and as to the subsequent febrile symptoms, what are they? A person taking a glass of wine should put his finger to his pulse, and he will know. The unfortunate patient having pulled through the worst part of the disease, nature trying to complete the cure is not only utterly crushed, but her efforts are negated in a way that I am thankful to say is completely preventive; and I trust if cholera comes here that fact will be borne in mind. Look at carbonate of ammonia. Whatever can you possess as a finer stimulant than that? Give that to a man who is sunk very low: its action is such that there are no subsequent depressing effects. Name any other stimulant you choose. I will give you the whole range of them. You cannot do it, and therefore as long as we have these powerful stimulants by us, let us never forget their great value. Now, with reference to my own professional brethren—I speak to you here as one who knows the value of total abstinence. After thirty years' service in the army, I must tell you that if any medical officer comes to grief it is through intemperance. I should feel I was not doing my duty to the profession I love so dearly if I did not say this. An officer was once tried by court-martial for being drunk, and one

of his excuses was that he was not on duty. The commanding officer said, "I have yet to learn when an officer is not on duty;" and if that is the case with an officer, how much more is it the case with a medical man? How is he to go to his bed and say, "Don't call me till the morning"? What right has he to give such an order? I have heard people say, "He visits at night and he prescribes in the morning." We know what is meant by that. I do not know how it is in this country, but I know in India if he visited at night and prescribed in the morning, he would find the patient beyond the reach of prescription of any kind. We must remember that our duty as medical officers, and as a sanitary congress, is a very important one. Of course there will be difficulties. Numbers of people object to the withholding of stimulants, because they say they are necessary, but they always withhold one great reason, and that is because they like them. They keep that well in the background. We must remember that we are battling with a liking, and it is a hard objection to get over. If we can tackle that liking, and show, as it can be shown, that that liking is really and truly the basis of this terrible craving, that if the craving is got rid of the liking will disappear with it, then I think we shall be able to make a great stride with professional men on this important subject. A great many more things you would little think of produce those terrible results from intemperance which we meet with in the profession. You would scarcely believe that the distribution of prize-money would lead to an outbreak of pneumonia. You say, "What can be the connection?" A very intimate connection. I was at Meerut when the prize-money for the last Cabul campaign was paid, and it was distributed among the troops. Vast numbers of them spent it in liquor, and with that peculiar obstinacy that a man will have in the condition of drink, some of them preferred to sleep in the drains rather than in bed in the barracks; and if a man does so it is probable he will get an acute attack of inflammation of the lungs. I believe that the

breach of sanitary law is more due to intemperance than we have the least idea of. The Contagious Disease Acts were repealed, and rightly repealed; if we are going to do anything, God grant that we may not push one of His commandments aside to make room for one of our own, and act independently of it. I feel a deep interest in that country, where I lived so long, and spent so many happy days. There is one bright picture about it I should like to draw. You travel up and down the whole length and breadth of that land, and the Government has fallen back as regards the liquor traffic, yet it deserves credit for one thing. As regards the liquor traffic I had to bring that prominently forward at the recent Temperance Congress. Never let us, when we come to look at the dark side in our connection with India, forget to look at its bright tints. There was a governor-general when I went to India in 1854 who made it a *sine quâ non* with all railways that at every station opened in India the Moham-

medan and the Hindoo watermen should be present to give water to all and every one without money and without price. No one who has not been in India can understand what that means. To go through Central India in the blazing heat—putting your head out of the carriage window is like putting it into a blast furnace—at the station you hear the call of “Pawnee! pawnee!” and you see the cups put out of the window and the watermen running hither and thither, supplying the wants of all. Now, that is the thought of one considerate man, and I am glad to be able to say that his name was Lord Dalhousie. He came from the land of whisky, but if Scotland could get rid of whisky, then my native country would rise infinitely higher than it has already done.

The meeting was also addressed by Mr. John W. Willans, Leeds; Mr. Fielden Thorp, B.A., York; the Lord Mayor of York, and Mr. Alderman Rowntree.



INFLUENCE OF ALCOHOL UPON LONGEVITY.*

By JAMES EDMUNDS, M.D., M.R.C.P. Lond., *Medical Officer of Health for St. James's, London.*

IF you take the annual returns of the Registrar-General you may analyse the causes of about one million deaths in each year in this country. You may learn what mortality attends the clergy, the lawyers, the doctors, the brewers, the publicans, the working men of every class throughout the country. The causes of sickness and premature death are, in the main, want of food, want of clothes, want of comfortable houses, liability to accident and injury in the trade to which a man belongs. If you take the deaths of the working men between twenty-five and sixty-five years of age throughout the country, you will find that in each

1,000 living there are about fifteen deaths in each year, and that over the average of the whole country this percentage comes out with wonderful constancy. Some of these working men will have a higher mortality and some a lower mortality, according to their occupations and to the circumstances of their life. Now, what is the mortality which we might expect among, say, the publicans? The elements of longevity among people are, first, abundance of food. Who then are best fed, the publicans or the average working man? I reply the publicans. Then who are the best clothed? I answer, the publicans, and especially the publican's wife. Then who are the best housed? I answer again, the publicans. And

* From a “Jubilee Address” delivered at Market Harborough, November 17, 1886.

again, who are most free from the risk of accident in their occupation? Well, I think that the publican, in drawing beer or doling out gin or wine, runs a very small risk of breaking his neck, while builders' men, miners, sailors, horse-drivers, are much more exposed to risk of personal injury from accident. It appears, therefore, that in all four of the great factors which go to promote long life and good health, the publican has the advantage over the working man. And if we represent these four advantages by the four fingers on the hand, there is one more—they get "genuine liquor unadulterated," and with the advantage of its being always at hand. This fifth advantage we will represent by the thumb. Well, then, what mortality ought we to calculate upon among a class of men in all these five respects so much more advantageously placed than the average working-man? The working men have, as we have learned, an average death-rate of fifteen per 1,000; perhaps we might expect the publican, therefore, to die at the rate of twelve per 1,000 per annum. Curiously, we find that, where fifteen working men die, instead of twelve publicans dying we have thirty die! The fact is that "genuine liquor unadulterated," and always at hand, vastly overbalances all the advantages which the publican undoubtedly gets by having better food, better clothing, better housing, and less risk of accidental injury. The Registrar-General, last year, broke out in a new place on this matter, and he writes:—"The mortality of men who are directly concerned in the liquor trade is appalling." (*Vide* page xxxvi. Supplement to Registrar-General's forty-fifth Annual Report, 1885.) During the three years, 1880, 1881, 1882, his actual figures for twenty-five to sixty-five years of age are that:—where 967 men of all occupations died, 1,521 publicans died, and 2,205 publicans' servants died; whereas only 830 maltsters died—the maltsters handling only the original food material, and not necessarily the fermented liquor into which it is turned. Again, where these 1,521 publicans and

2,205 publicans' servants died—only 701 agricultural labourers, 631 farmers, 599 gardeners, and 556 clergymen died. In fact, if you look through the various occupations, you will find that the death-rate depends more upon the extent to which people are brought into contact with drink than upon anything else whatever.

Some of you may say, "Well, I think the publican has too much of a good thing, and therefore the argument is hardly fair." Perhaps that is so. We will therefore take a large number of the most provident and respectable men you could imagine—I mean those who feel it their duty to insure their lives against premature death, and who in that way make a provision by which, in the event of their untimely death, their widows and children may keep afloat. Now, men insuring their lives in this thoughtful way will be found to be among the most deserving and respectable members of the community, and before they can insure their lives they must, of course, pass a careful medical examination; therefore they must begin as sound, healthy men. It is obvious that no man whose income depends upon his own health ought to marry without insuring his life, and the fact of insurance is an evidence of good sound constitution in people who propose to marry, as well as an evidence of thrift and forethought; and if one of the half-dozen great offices is selected—a mutual office always, so that all the profits are added to the amount of the policy as bonuses—there is no better investment that a man can make. If a man can afford to pay a little larger annual premium he can frame the policy so that, if he lives thirty years—say from twenty-five to fifty-five—he can take out the whole sum with his bonuses for himself to retire upon at that time in life at which his children, if they are any good, will have got afloat for themselves. That is, in my opinion, the proper thing for every young man to do. Now, I happen to be the advising physician to the Temperance and General Provident Institution, and every week I have to go through a large number of proposals and medical

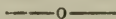
reports from all parts of the country. I am therefore able to give you some facts from the experience of this society which will enable you to compare the mortality of a picked class of men, some of whom are moderate drinkers quite uninjured by drink—so far as medical examination and personal history can discover—and some of whom are total abstainers by a condition of the policy, but in appearance undistinguishable from those who are moderate drinkers. And when I go to this office, there upon my table, side by side with the heap of proposals and medical reports upon proposers, there is another heap of documents for me to go through. This second heap of documents is from the widows and orphans of the members who have died during the week; there are the medical certificates of the deaths; there are the original proposals and medical reports upon which those lives were insured. Sometimes only one premium, sometimes forty or more annual premiums have been paid; and in examining these death-claims all the facts come out in a clear and emphatic way. Then there are the bonus-additions to these policies. Only the other day a gentleman, living not far from this very place, died, and I remember that while his policy was for £3,000 the bonus-additions brought the amount up to £4,400. But he would not have had so large a bonus unless he had been a total abstainer, and it will interest you perhaps if I tell you more on this point. Not only has this institution paid millions of money to the widows and orphans of its deceased members, but it now has about four millions of money out at interest, all of which is the property of the members who still live, and constitutes the fund out of which their policies are paid at their deaths. Now, how do you think this great institution was founded—not a charitable institution, you see, but a “help-myself institution,” which is much better both for the institution and for the State? Well, I’ll tell you. In the year 1840 there was a young Quaker named Robert Warner who wanted to insure his life. He was “a

teetotaler”—probably made so by what had been said and done by the very men now on this platform. Well, the directors of the assurance society to which he applied did not believe in “teetotalism,” and they proposed to charge Robert Warner 10 per cent. extra because he did not use those “good creatures of God” which make people drunk. But Warner, like many of the teetotalers, was a perverse and obstinate man; and he not only would not pay this 10 per cent. extra, but he had the audacity to say that the teetotalers ought to be allowed 10 per cent. off their premium instead of 10 per cent. added. In the end Robert Warner, who probably had then, or was about to have, a wife, talked this matter over with other perverse and obstinate men, also teetotalers, and they agreed together to found a mutual life insurance society for teetotalers alone. Robert Warner took out the first policy, which was for £250. And what do you think became of this perverse young Quaker? Well, he has still got this No. 1 policy, and is so proud of the policy that he has had it framed and glazed.

In the year 1847 the Temperance Provident Institution added to its business a section for moderate drinkers. This was called the “General Section,” and the office has long since been known as “The Temperance and General Provident Institution.” But each section has been kept quite separate as to its funds, and each insurer, therefore, receives such bonus-addition to his policy as is determined by the vitality of the members of his section. If an extreme mortality were to occur there might be no bonus at all, only the amount fixed for the policy. If there be a small mortality then corresponding bonuses are added to the policy. Now, in the general section we find this fact, that for the twenty years—1866-85—where we expected 5,431 deaths we got 5,284; so closely do our actuarial calculations come out where thousands of lives are dealt with. But in the Temperance section the perversity of the teetotalers has manifested itself to such an extent that they have not even died

properly. (Laughter.) In fact, only 2,408 teetotalers have died where 3,384 ought to have done so. The result of such perversity is that when they do die their policies have much larger bonuses attached to them. In fact, they have actually received over 30 per cent. more bonus than the respectable moderate drinker. Therefore, it is not merely that the publicans die at their "appalling rate" because they "get too much of a good thing." The real secret is that every 1,000 moderate drinkers contains the raw materials of, perhaps, fifty drunkards, and when I come to examine and report upon these death-claims, there after a few years come the deaths from drunkard's liver, or dropsy, or delirium tremens, or suicide, and they come as regularly as fruit grows upon a tree. Not only have we the deaths which are obviously the result of drink, but there are many others which are equally the result of drink directly or indirectly, but which we cannot distinguish as positively. If among 1,000 people in this room, all moderate drinkers, we could look forward, there would be our fifty drunkards to deal with; we could not tell which they would be, but it might be you, or me, or others, just according to circumstances; to

how we were thrown in the way of drinking habits; and to how imperfectly we were warned when young against the insidious influence of alcohol. Just so, again, no middle-aged person here can reckon upon his fingers the first twenty young men whom he has seen grow up with the habit of moderate drinking but he will come upon one who has been ruined through drink. It matters not what may be a man's profession, or a man's religion, or a man's health, or a man's intellect, drinking habits will have their percentage of victims, and the devil will take his toll equally from among our clergymen, or doctors, or lawyers, or bricklayers, or carpenters. The extent to which the drinking usages of society are adopted determines the percentage of drunkards which any given community is to yield. Now, these facts, drawn from the experience of 84,000 lives in the Temperance and General Provident Institution, are what I give you to refute the supposition that an individual life is bettered by the use of alcohol. What is true of the thousands is true also of the units, and I need argue no further as to "the moderate use of alcohol in health."



LICENSED RETREATS FOR DRUNKARDS.

THE following is a copy of the sixth report of the Inspector of Retreats, under the Habitual Drunkards Act, 1879, for the year 1885:—

Home Office, June 17, 1886.

SIR,—As inspector under the Habitual Drunkards Act, 1879, I have the honour to submit my sixth annual report upon the retreats licensed during the year 1885.

Two new retreats have been added during the year to the four houses already licensed under the Act. The first, situated at Wansford, was duly

licensed by the Peterborough magistrates to F. M. Brown, Esq., F.R.C.P., but this gentleman suddenly broke up his establishment after it had been open only a few months, and went abroad. The second was opened by H. Branthwaite, Esq., F.R.C.S., at High Shot House, Twickenham, for the reception of ten male patients.

The only change that has been made in the previously existing retreats is the one I alluded to in my last annual report, viz., that of Mr. Gray (formerly of Hall Court, Cannock),

who, having given up his old retreat, obtained a license for Old Park Hall, near Walsall, early in the year. His new house is a modern one and conveniently arranged, and, being surrounded by extensive grounds, is very well suited for the purposes of a retreat. Mr. Gray tells me that he has chosen this spot, being convinced that his patients will do no ultimate good unless they will surrender their liberty for a long period and be kept from the possibility of the temptations of the outer world. This he believes they will be able to do, and at the same time obtain the necessary exercise to keep them in health in his present establishment.

I have been furnished by several of the licensees with short reports as to the working of the Act at their establishments during the year.

Dr. Branthwaite, of the Dalrymple Retreat, says:—"On the whole I still find the 'Habitual Drunkards Act' to be of considerable value in enabling inebriates desirous of cure to more easily secure protection against themselves, and I would wish most sincerely that patients could with greater facility avail themselves of its provisions. My opinion is that all those whom we now admit as private patients would be quite willing to enter under the Act if it were not for the somewhat formidable and to them repulsive attestation before justices. The Act would be infinitely more useful if an applicant could be admitted, either without appearance before any magistrate, or even with signature before one instead of two. It would also be very advantageous if an escaped patient could be taken back direct to the home without having to be brought before a magistrate. When I have taken the course laid down by the Act for the recovery of an escape, the patient has after his return become so vindictive that I have lost all influence over him, and the final result has been bad. It appears to me that, if we are to keep curative principles to the front, it is absolutely necessary that everything should be done, as far as possible, to avoid penal measures."

The medical licensees of Colman

Hill thus express themselves:—"We have every reason to be satisfied with the results of last year. Many patients have left from the efflux of time, and the accounts in most cases, even those of the worst type up to the present, are most encouraging. We have increased reason for believing that there are a large number of cases which may be cured by restraint and treatment in retreats, whilst all are benefited for a time. We are satisfied with the working of the Act, and find, especially the last few months, that there is less dislike to signing and entering the retreat under its provisions. We have never up to the present time had to put the penal clauses of the Act into operation. We still continue to find the necessity of having two magistrates present a great difficulty. It is heartrending to read the letters from friends giving sad accounts of patients whom they are unable to persuade to enter a retreat, and they lament that the law gives them no power to act, and save them from ruin."

Mr. J. H. Brown, of Westgate-on-Sea, remarks:—"I am glad again to be able to speak of the assistance the Act affords to those desirous of overcoming habits of intemperance, and although a great deal has been said in the newspapers from time to time upon the uselessness of the Habitual Drunkards Act, I can, having had six years' personal experience, testify to the great utility the Act has been to me during that time in dealing with the numerous cases of dipsomania which have come under my notice."

The medical licensee of High Shot House Retreat reports that "High Shot House was only opened as a 'Home for Inebriates' on September 1, 1885. During the four months ten patients have been admitted, three of whom have signed 'under the Act' for six months. Several of those admitted as 'private' patients would have entered under the provisions of the Habitual Drunkards Act had attendance before one magistrate been sufficient."

All the licensees verbally complain to me of the difficulty they experience in obtaining the presence of two jus-

tices to witness the applicant's signature before admission to a retreat as required by the Act, and they fear that this difficulty will be greatly increased in consequence of a recent decision of the Home Office, viz., that the attesting justices must both be in the commission of the peace for the place (either borough or county) in which the attestation is made.

All the retreats have been maintained in a condition fit for the reception of their inmates, whose health has, as a rule, been highly satisfactory. No death has occurred during the year.

An experiment is now being tried at Old Park Hall, Walsall, for giving employment to patients who cannot afford to pay the fees usually charged. Male patients are received at this retreat at reduced charges, but they are expected to work in the garden, on the farm, or about the house for a certain number of hours during the day. This attempt to make patients do something towards their own support deserves success, and is, I think, worthy of imitation. To find employment suitable for well-to-do male patients is by no means an easy task for the licensee of a retreat. For women, who are naturally more domestic in their habits, occupation is less difficult to find.

At Ricksmanworth great pains are taken to provide amusing and instructive employment for the patients.

Besides the usual tennis-lawn and billiard-table, a gymnasium and a carpenter's workshop (with turning lathe) are added, and, for the use of those of a scientific turn, photographic apparatus and meteorological instruments have been lately provided. Occasional concerts and private theatricals help to pass the time during the winter months. I very rarely receive any complaints from patients at my visits of inspection to this retreat, and this, I think, is in great measure due to the care taken by the licensees on this important point.

In conclusion, I should add that no prosecutions have been instituted at any of the retreats for offences against the Act or model rules during the twelve months now reported on.

I have the honour to be, Sir,

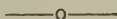
Your most obedient servant,

(Signed) H. W. HOFFMANN,

Inspector of Retreats.

*The Right Honourable the Secretary
of State, Home Office.*

The schedule appended to the report shows that the number of patients admitted to the six licensed retreats during the year was seventy-seven, the number discharged being eighty-three; and the number remaining on the 31st December, 1885, in the five homes then open was thirty-nine.



LEAD POISONING BY HOME-MADE WINES.

DR. CAMPBELL, the Medical Officer of Health for Calne, has made the following special report to his local authority on a subject of importance in the interests of the public health:—

“For many years past, about the months of August, September, and October, I have had occasion, in my professional capacity, to attend annually many severe cases of acute and subacute lead-poisoning, the sources

of which I could not ascertain. Suspicion and analysis were directed towards the drinking water, the beer, tea, coffee, bread, and the various cooking utensils, with the view, if possible, of finding whence the lead was imbibed, but with negative results, until about two weeks ago seven severe cases occurred simultaneously in Calne and the neighbourhood. Two were almost fatal. Frequent careful and

solicitous inquiries at last elicited the fact from one of the parties, that her husband had drunk some home-made rhubarb wine, which she herself had made, but which she was sure could not contain poison of any sort, as she was very careful in selecting and cleaning her rhubarb, and, as for the sugar and barm, they were all right; besides, the vessel was a beautifully clean *glazed earthenware pan*, in which she steeped it for a fortnight or three weeks to ferment. The glaze on these vessels, as is well-known, contains at times as much as 60 per cent. of white or red lead, and during the process of fermentation the acids of the rhubarb, or any other fruit used, with the acetic acid or vinegar generated, act on the glaze, dissolve the lead, forming acetate, or sugar of lead, a powerful irritant poison when taken even in small quantities for any length of time. Three of the cases arose from drinking rhubarb wine, two from red currant wine, and two from black currant wine. It is a very common custom, hitherto unknown to me, for the labouring classes (and for the matter of that, for those above that class) who live in the country, and have large gardens and much fruit, to make two or three gallons of such wines, which the men drink in the harvest time, and thus it is that these cases come under notice in the fall of the year, all the patients being men, for they drank the greater portion, though the women in five cases alluded to above, besides one boy, showed unmistakable proof of having partaken of it, though in a lesser degree. Sometimes the thrifty housewife realises two or three such quantities from different fruits, for, in one house where the husband was then ill, there were at the same time in process of preparation a pan full of sloes and a pan full of damsons; while in another house, with a patient ill from a previous brewing, there was a pan full of damsons, which have since been consigned to the gutter. Analyses of ten samples of various home-made wines showed the presence of lead—in large quantity in eight; one (parsnip) made in a galvanised iron tub, contained iron, and one was free from lead and

iron, having been made in an ordinary boiler. One sample five years old and two years old contained lead. Various chemical tests applied to the vessels used showed whence the lead had been obtained, so that I am now able to account how the men became the subjects of lead colic in the fall of the year. In one instance the pan which was used for the wine-making was afterwards used for making the dough for home-made bread—a practice which is highly reprehensible and fraught with danger, as thereby lead may get into the bread. Such is the only solution that I can give of one case in which the patient showed slight indications of having lead in his system. Having demonstrated whence the lead was obtained, and how it got into the wine and the system, it now only remains for me to point out how such disastrous results can be avoided in the future. I would strongly advise that all home-made wine which has been made in these beautifully clean, glazed pans be thrown away, and that such wines be made in future in wooden vessels."

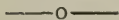
Dr. Campbell then proceeded to demonstrate, by chemical proof, the existence of lead in some six or eight samples of home-made wine he had procured and now produced for that purpose, the admixture of a few drops of sulphuretted hydrogen turning the tainted wines perfectly black, and not having any appreciable effect on one which was free from lead; while, by the application of this and other chemicals to an earthenware pan, he showed the presence of red lead in the glaze. It was stated that the wine acted similarly upon the zinc coating of galvanised pails and tubs by extracting acid of zinc.

Dr. Campbell further informs us that, since writing the above, he has had ten more cases of lead colic from the same cause. He finds that the custom of making home-made wines in glazed earthenware pans is more common than he had reason to think. It seems that, owing to the abundance of fruit this year, and the cheapness of sugar, the poorer classes have made a large quantity of home-made wines,

and the middle-class housewives had prepared extra quantities as a treat for the children and for children's parties at Christmas.

Fortunate, indeed, it is that Dr. Campbell's discoveries concerning the method of preparation of the wines

were made in time to prevent what might have been feasts of death, when we consider what serious effects were experienced by robust men who drank home-made wines prepared in the way described by Dr. Campbell.—*Sanitary Record*, November 15.



NOTES ON TWO CASES OF CIRRHOSIS OF THE LIVER.*

By J. C. GOODING, M.D., *Cheltenham*.

I DO not propose to enter at any length into the subject of cirrhosis of the liver; its nature, causes, and diagnosis are, no doubt, known to all of us; but I wish to call in question the prognosis and treatment which are to be found laid down in works on the subject, and my warrant for so doing will be made good by the histories of two cases to which I shall invite your attention.

We are told, and I believe, that alcohol—the most frequent cause of this disease—is taken up, much as it is swallowed, by the radicles of the portal vein, is conveyed by that vein into the parenchyma of the liver; that, in the capillaries it comes into direct contact with the delicate areolar tissue—the continuation of Glisson's capsule; that the cells of this scarcely more than granular structure, irritated by it, proliferate, greatly increase, and form a substantial interlobular tissue, so causing increased size of the liver by its physical addition, and more by the impediment it offers to circulation. The earliest increase of the connective tissue is upon the finer sub-division of the vessels in the interior of the liver. After a time the contraction of this cicatricial tissue compresses, and takes the place of the gland-substance; and the smaller subdivisions of the portal are narrowed and obliterated. The origins of the bile-ducts at the periphery of the lobule are destroyed, too, by its pressure,

producing ascites, derangement of the digestive functions, and a crowd of other symptoms. We are further told that the “prognosis is always unfavourable, and the main question regarding treatment is the possibility of relieving the disorders of function which threaten life, and so delay the fatal termination.”

The first case came under my observation when the effects produced by the contracting tissue were extremely marked. The patient was a laundress, aged fifty-five. She lay on her bed, propped with pillows, and her legs drawn up. She was much emaciated, and had a yellowish skin. The digestive functions were wholly disorganised. Ascitic fluid distended the abdomen, and embarrassed respiration. I undertook to treat her on one condition, that she absolutely obeyed all my directions, any breach of such at once terminating my attendance. She solemnly agreed. My first order, rather unexpected by her, was total abstinence from alcohol in every form. Within a week, because of the difficulty of breathing, it was necessary to tap her; a pailful was withdrawn. The tapping had to be repeated after six weeks. In the meantime she was taking small doses of calomel, frequently repeated, and the salivation so produced was persistently maintained, in a mild form, for seven or eight weeks. This experiment was based on the well-known power of mercury in causing the removal of adventitious material, and the marked benefit which attends its use externally in splenic

* Read before the Gloucestershire Branch of the British Medical Association.

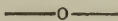
and other glandular enlargements. After the second tapping, the fluid ceased to be effused. The mercury was discontinued, and, at the expiration of a few days, when all traces of salivation had disappeared, nitro-hydrochloric acid and bitters were administered. The appetite improved, the evacuations became healthy, the skin gradually lost its yellow tinge, strength returned, and the patient became ruddy and fat.

The other case was that of a well-known tradesman, aged sixty, not a drunkard, but fond of his sherry at dinner, and his whisky at night. He was on several occasions seen by me for pain in the right hypochondrium, yellowish skin, and gastric disturbance. Caution as to what he was bringing about failed to shake his faith in the virtues of his "mountain dew." At last the yellow skin became persistent, the colour deepened, his appetite completely failed, and flesh was steadily lost. He still refused to stop all alcoholic drinks, as I desired, but he gradually reduced them; yet, after months, no progress was made, except in emaciation. After twelve or fifteen months I got him to give up all stimulants; but after two months of abstinence, he still lost flesh, continued jaundiced, and could scarcely walk. There was no ascites. He went to Folkestone for change. I offered consultation, while passing through London, with a distinguished physician. I detailed the history, and the difficulty I had had in getting the patient to become a total abstainer. The physician agreed in the diagnosis, and suggested hydrochlorate of ammonia. After three weeks the patient returned

home, and informed me that the physician had ordered him a glass of beer at lunch, a glass of whisky at night, and if he liked a glass of port he might have it! Indignant at this reversal of my advice, I asked an explanation; the physician replied that as the old man had "fatal cirrhotic liver," "I don't think, at the last, a glass of grog at night will do much harm!" I immediately stopped the alcohol again, persisted in administering nitro-hydrochloric acid in increasing doses, and had his legs sponged every night for a quarter of an hour with the acid bath. He had previously had a long course of bichloride of mercury. After several weeks I had the gratification of seeing indications of improvement, which gradually became more and more evident, till at last he perfectly recovered. Now, three years after, he is a healthy, rosy old man.

I cannot tell at what stage of cirrhosis such treatment would be fruitless; but, in both these cases, alcohol had, through years, been doing its characteristic work on the liver, and the effects produced indicated a condition of the extremest gravity. In the latter case, in Dr. Wilks's opinion, a hopeless condition had been produced. They both perfectly recovered. It is exceedingly difficult to get people to give up drink; but my experience proves this to be imperative, if success is to be obtained.

These are the only two cases of far advanced cirrhosis of the liver I have so treated. They are a proof of the old adage, that "while there is life there is hope," if you can get the patient to give up alcohol.—*British Medical Journal*, October 9.



THE TREATMENT OF ALCOHOLISM BY STRYCHNINE.

THE treatment of various forms of the alcoholic habit by means of strychnine, which has been recommended from theoretical and clinical researches by Luton, Giacomini, Magnus Huss,

Morey, Lecuyé, Jaillet, Minoz, Du-jardin-Beaumetz, and Amagat, has recently been tried by some Russian practitioners, and found to give gratifying results. Dr. Popoff, writing in

the *Vrach* (Nov. 10, 1886), after giving a *résumé* of the results obtained by the French and Italian observers above-named, mentions some cases of dipsomania which he has successfully treated in the same way, and in the last number of the *Vrach* (No. 38) Dr. K. K. Tolvinski describes the case of a man, aged thirty-four, belonging to a neurotic family, very anæmic, but with no organic disease, who had drunk hard for many years, and with whom of late the outbreaks had been as frequent as two or three every month. He was treated with chloral, bromide of potassium and opium, with but little success, his extreme distress, desire for drink, nausea, vomiting, and unusual weakness being unaffected. On the last occasion, when he had been drinking for some days, Dr. Tolvinski decided to make trial of strychnine, and began with the sixtieth of a grain of the nitrate in pilules three times a day, and did not prohibit spirits. The next day the man felt better, and asked for wine; but the sleeplessness, the want of appetite, and nausea and vomiting still continued, though in a somewhat less severe degree. Four days after the commencement of the strychnine treatment the patient had greatly improved in every way, and was soon afterwards able to resume his work. He continued to take the sixtieth of a grain twice a day for six weeks, and during the four months which have elapsed since the attack he has had no inclination for drink. Upon this case the editor of the *Vrach*, Professor Manassein, who holds the chair of Special Pathology and Therapeutics in the Imperial Military Academy of St. Petersburg, remarks: "There is no doubt that, with abundant materials at hand, observations on the effect of strychnine on different forms of alcoholism will in the immediate future be accumulated in considerable numbers. It may be desirable as a preliminary to distinguish the different classes of the affection. (1) Anæmic cases (literally 'white fever'; (2) actual drunkenness; (3) constant drinking without symptoms of chronic alcoholism; (4) chronic alcoholism. It is very possible

that the effect of strychnine on these very dissimilar conditions may be different, and if all these forms are confounded together, as is done by many writers, it can only lead to confusion when the strychnine treatment is mentioned." Professor Manassein goes on to relate the case of a cook, a very honest, respectable woman of forty-five, who was subject to attacks of insuperable craving for drink, which attacks were preceded by a depressed and highly irritable condition. They gradually increased in frequency, so that latterly they came on about every fortnight. Sulphate of strychnine was ordered in pills from the sixtieth to the thirtieth of a grain after breakfast and dinner. During four months of the strychnine treatment the patient continued in excellent health, not only having no outbursts, but not even experiencing any inclination for drink.

In another Russian medical journal, the *Meditinskoe Obozrenie*, Dr. Partsevski gives an account of nine cases of acute and chronic alcoholism treated by means of hypodermic injections of strychnine. Seven of the cases gave excellent results, but in the remaining two cases the strychnine had to be discontinued and chloral substituted. In the majority of cases the treatment began to take effect very quickly on the appetite, sleeplessness, and hallucinations. The trembling of the hands, too, entirely disappeared, and the general irritability subsided. The author says that under no kind of treatment has he found patients recover so quickly from an attack. Even the blueness of the skin and the puffiness of the face and hands quickly disappeared, and the quantity of urine became notably increased. The dose given is not very clearly stated, but the number of injections required in the different cases was usually from four to eight. In one case only were fifteen necessary. They were given twice a day.—*Lancet*, October 16.

(To the Editor of the *Lancet*.)

SIR,—*Apropos* of your interesting leader on the above subject published

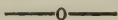
in the *Lancet* of the 16th ult., I should like to be allowed to make a few passing remarks. The treatment in question, as recommended from theoretical and clinical researches by Luton, Giacomini, Magnus Huss, and other Continental *savants* of the medical profession, and now tried by Russian practitioners, notably by Drs. Popoff and Talvinski, was extensively experimented upon so far back as 1869, by Deputy Surgeon-General F. G. Joynt, who was at the time medical officer in charge of the European General Hospital, Bombay. I am not aware if any other army medical

officer followed his method of treatment; but suffice it to say that the drug proved in his hands a sheet-anchor in cases of ebriositas (now termed alcoholism) and delirium tremens. I may *en passant* mention that Dr. Joynt's solution of strychnia was, unlike the British Pharmacopœial preparation, made with dilute nitric acid and a smaller proportion of the alkaloid, and the dose usually exhibited was twenty-four minims two or three times a day.

I am, Sir, yours faithfully,

A. LYON MERCADO, S.M.D.

Aden, Nov. 25, 1886.



INEBRIETY AND TUBERCULOSIS.

THE very intimate relation between these diseases receives additional evidence in a paper by Dr. Crook, lately published in the *Medical Record*, entitled, "A Contribution to the Natural History of Consumption," based on an analysis of fifty-nine cases. Of fifty-five of these cases whose habits were studied, thirty-nine were found to have used alcohol more or less to excess, nine of this number had evidently drunk to great excess, and twenty-six claimed to be only moderate and occasional users of spirits, and four were evidently periodical drinkers. In reality, they were all inebriates, only in different stages of the disease, while the consumption was merely another form of the same degenerative disease, which followed the inebriety. The name consumption is used in its broadest sense to express the various lung diseases whose prominent symptoms are wasting, degeneration, exhaustion, and death. The frequency with which these diseases appear among inebriates have sustained the conclusion that they were of the same family group, and interchangeable one with another. Clinically, this is apparent in cases like the following: Moderate or excessive drinkers will suddenly abstain from all use of spirits,

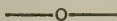
and soon after develop tuberculosis, which may run a course of years before death. In some cases the inebriate impulse will gradually die out, and the lung disease come on in a marked obscure form, and only be recognised by some severe hæmorrhage. When organic disease begins in the lungs, the drink impulse subsides. In some cases where chronic inebriates have signed the pledge, or for some insignificant cause ceased to drink, and suddenly changed the manner and habits of life, incipient tuberculosis have been diagnosed. In all these cases of sudden conversion and cure of inebriety, a very careful examination of the lungs will often reveal the real cause. Pneumonia seems to be a common favouring cause; thus in cases of inebriety where pneumonia comes on, and the person recovers, still using spirits as before, tuberculosis frequently follows, and in the four cases I have noted, terminated rapidly in death. The pneumonic lesions are the starting points for the graver diseases of the lungs.

Some cases have been noted where the inebriety has suddenly terminated, and dulness at the apex of the lungs, with other characteristic signs, appeared, which remained in abeyance

without change for some time, then burst out, ending fatally in a few weeks. Some of the cases of acute tuberculosis (or galloping consumption, so called) are noted in reformed inebriates who have had premonitory symptoms for a long time unobserved. Other cases are observed where previously temperate persons have had pneumonia, pleurisy, or severe bronchitis, and been treated with larger quantities of alcohol, developing inebriety that is generally of short duration, ending either in organic disease of the lungs, or fatal, acute inflammation of some organ. The facts as yet are only in outline; the exact relationship between these diseases must be determined from clinical records at present wanting. So far, all observers have noted the facts we have presented, and also the frequency with which lung diseases are seen in children of inebriates. It has been also observed in consumptive families, that inebriety seemed to take the place of consumptive diathesis. Thus some members would develop consumption, and others would become inebriates. In one in-

stance, two daughters of consumptive ancestry reared large families, then died of this disease, while their children were both inebriates and consumptives. Often these consumptive families will be marked by inebriates in the male members, and consumption in the females. The use of alcohol as a prophylactic, simply develops the disease into other channels, both increasing and intensifying the ultimate degeneration. The case with a consumptive heredity who uses spirits to prevent its development may not die of this disease, but he will certainly develop organic disease of other parts of the body that are incurable.

In most cases the use of alcohol stops suddenly, and acute tuberculosis follows. The use of spirits after tuberculosis has developed in some instances seems to retard the acute symptoms of the disease, but it will be found in most cases to have only masked the organic degenerations, which may have turned in some other direction with equal intensity and fatality.—*Quarterly Journal of Inebriety*.



THE ALCOHOL QUESTION IN HOSPITALS.

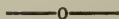
THE temperance question is one which has made rapid progress during the last twenty years, and its effects are apparent in every rank of society. Every one will agree that in this case the alteration is an improvement, and it is worthy of remark that it has been effected not by means of Acts of Parliament, or any kind of coercion, but by personal influence, example, and the creation of a better tone, in virtue of which it has become unseemly to indulge depraved tastes at any rate in public. The advocates of temperance have, therefore, every reason to rejoice and be thankful with the progress effected, but at the same time they might learn a lesson from the history of the movement which has gone on to some extent independently, and even occasionally in spite of, their

advocacy. The old idea that intemperance is to be stamped out by legislative enactments, or by prohibitive regulations, is one which still has its believers, and there is hardly room for doubt that the advocates of coercion in any shape often do more harm than good to their cause. People resent being constrained to be good, and certainly the result, even if successful, would be to deprive abstinence of its value as evidence of self-control.

As an example of the persistence in this plan may be quoted the efforts made by certain gentlemen, who for some time past have turned their attention to obtaining a reduction of the hospital alcohol bills. They express a decided opinion that the disbursements under the head of alcohol are exaggerated, and in this we are disposed to agree

with them, but at the same time we are quite unable to follow them in some of their suggestions as to the means of reducing them. Taking their stand on the statistics of temperance hospitals, they proceed to argue that since their results are not inferior to the results in other institutions where alcohol enters into the treatment, therefore its employment is unnecessary, and, since useless, reprehensible, as well from a therapeutic as from a financial point of view. Here, again, we are disposed to concede that in all probability more alcohol is given than could perhaps be justified on scientific grounds, but we must reject their deductions as altogether *ultra vires*. Apart from the fact that statistics are treacherous premises to go upon these particular statistics are more than usually fallible. In the first instance, it is not advanced that alcohol is exclusively, or even chiefly, a curative agent, any more than opium. Both may have a beneficial effect on the general condition of the patient, but they are far more frequently used as a means of ministering to the comfort and ease of a patient than for any power they may possess in directly checking the progress of disease. It is extremely doubtful if opium, for instance, were struck out of the list of drugs to be used in a particular institution; and in view of the abuse of opium in certain countries, this measure would be as fully justifiable as the one lately suggested in regard to alcohol; whether the results as judged from the mortality would be sensibly modified, provided the other drugs could be had recourse to. Even in surgery, where there is, generally speaking, less room for uncertainty, statistics really prove

very little. Few surgeons entertain any doubt as to the valuable services rendered by Listerism in the after-treatment of surgical operations, but there are some surgeons who do not discard it entirely, and proclaim their scepticism *urbi et orbe*; yet their results do not compare unfavourably with those of their colleagues who observe antiseptic precautions with a scrupulousness which surpasses even that of its inventor. Notwithstanding their statistics, antiseptis is still recognised as the sheet anchor of surgery, and there is no reason why the same objections, *mutatis mutandis*, should not apply to the statistics regarding the uselessness of alcohol. Some of these gentlemen go a step further, and after strictly limiting the consumption of alcohol on the part of the patients, they express a desire to see a sort of "Maine law" passed to apply to the resident staff. Owing to some confusion in the accounts, the officials' share of the expense for alcoholic beverages has, in some cases, appeared unduly large, and in the interests of the hospital they would like to see this item disallowed. No question of principle is involved here, so we may safely leave hospital committees to think out the matter for themselves, convinced that any arbitrary measures applied to their medical staff will be adequately dealt with by the persons whose comfort they interfere with. These gentlemen are working in a good cause, and are doing a public service in scrutinising hospital expenditure, but we cannot help thinking that they occasionally waste their energy and time in urging points which might well be left alone, at any rate, for the present.—*Medical Press*, November 3.



ALCOHOL IN THE WORKHOUSE.

By NORMAN KERR, M.D.

MANY denials have from time to time been publicly made of the truth of certain of my statements in "Stimu-

lants in Workhouses" (Temperance Publication Dépôt, 337, Strand). These denials have frequently been emitted

rom partisans of the free use of alcoholic drinks in workhouses. The latest denial has been put forth in a newspaper controversy on the question of discontinuing the illegal custom of supplying paupers, who have work given them to do in a workhouse, with an allowance of an intoxicant as a reward for the performance of their work.

The denial was that in certain workhouses named by me this liquor allowance had been abolished. The *means adopted* to disprove my statement was writing to the clerks of the unions in question, and making a general inquiry, confusing workhouses with infirmaries, the latter having been, in the metropolis and large cities, entirely separated from the former since the publication of my report in the medical press some years ago. The statement made by me ("Stimulants in Workhouses," page 39) was that in certain *workhouses* no intoxicating drinks were now supplied to inmates for work done by them. Among these was given Marylebone Workhouse, and I refer to it, as I have had the opportunity of calling on the well-known and highly esteemed master, Mr. George Douglas. In his annual reports for years past (these reports have been issued by the authority of the guardians) the master regularly called attention to the fact that intoxicants were not supplied to the inmates except on Christmas Day; and ascribed the improved discipline and good conduct in a great measure to the absence of strong drink. This one example will demonstrate the accuracy of my statement; and I have much pleasure in appending copy of a letter Mr. Douglas has just favoured me with, which will settle the matter once and for all:—

"Master's Office, St. Marylebone Workhouse, London, W.

"Oct. 21, 1886.

"DEAR SIR,—Since the year 1881 not one single pint of beer (except on Christmas Day), or ounce of wine or spirits, has been issued to the pauper

inmates of this workhouse, though the daily average of such during that period has been 1,700.

"At one time we gave beer for extra labour, and also to most of the old people, but however disagreeable the labour performed by any inmate may be, it is not rewarded by alcoholic beverages of any kind, neither does the medical officer ever recommend them for any of the people under his care. "Yours faithfully,

(Signed) "GEO. E. DOUGLAS,
"Dr. Norman Kerr." "Master."

I will only add that the experiment in Marylebone Workhouse is crucial, this populous and well-ordered institution being one of the largest in the kingdom, comprising persons of every grade of pauperism, including serious emergency cases, medical and surgical, a considerable number of accouchments, and a goodly proportion of mental diseases of various forms, with a strong contingent of infirm and aged poor. If strong drink can be successfully withheld from the inmates of this capacious workhouse, it can be as safely dispensed with in any workhouse within our borders.

A Lambeth Guardian, Mr. John Mann, has published in the newspapers the following facts in reference to the Lambeth Workhouse and Infirmary:—
"For the year ending Lady-day, 1876, the inmates numbered 1,416; out-door, 3,395, making a total of 4,811, and the cost of liquor supplied during that period was £906 13s. For the year ending Lady-day, 1886, the inmates numbered 2,470; out-door, 3,479—total, 5,949—an increase of 1,138. Cost of liquor for this year £73 2s. 11d., showing a decrease on the former amount of £833 10s. 1d. The population of the parish is about 270,000. This has been effected with great advantage to the whole establishment; the discipline is of the highest order, and the testimony of the medical officer is that in the infirmary the result has been most beneficial."



Notes and Extracts.

BEER IN WORKHOUSES.—The Stockport guardians on the 28th September unanimously decided to discontinue the allowance of beer and porter to such of the resident workhouse officials as may desire it, and in lieu thereof pay them 1s. per week.

ALCOHOL AND EPILEPSY.—In Germany about two-fifths of those subject to delirium tremens are found to be also subject to epileptic attacks, indicating very clearly that the use of alcohol is the most potent cause of epilepsy.—*Good Health.*

CARE IN ORDERING ALCOHOL.—The Sheffield School of Medicine was opened on Friday, 1st October, the introductory address being delivered by Dr. W. S. Porter. Alluding to the great alcohol question, he advised students to consider it in the light of a drug, often a valuable one. The profession, he said, has long been familiar not only with the pernicious effects of alcoholic indulgence on the individual, but with the transmitted delicacy of tissue which the children of drinkers are apt to inherit. Care, therefore, was necessary in ordering it, especially for young people and children, lest habits should be fostered from which they might suffer later on.—*Medical Press and Circular.*

SCIENTIFIC TEMPERANCE INSTRUCTION.—At the annual meeting of the American Medical Association held at St. Louis early in May, and attended by about 2,000 physicians, a deputation from the Women's Temperance Union was received and Dr. Morris presented this resolution:—"Resolved that we re-affirm the previous utterances of the American Medical Association concerning 'the use and abuse of alcohol and its effects upon the human race, and recommend instruction in hygiene in our public schools.' To further this study, we urge the speedy passage by the House of Representatives of the Senate Bill now pending

before it, requiring scientific temperance instruction in all schools under state control." Half-a-dozen doctors competed for the honour of seconding the resolution, which was carried unanimously. The Scientific Temperance Instruction Bill was passed by the National House of Representatives on the 17th May by a vote of 203 yeas to eight nays.

THE ADVANCE OF TEMPERANCE.—Most of our readers will be pleased to see that, under the action of healthy public discussion, temperance is becoming more and more a custom with our countrymen. Alcoholic drinks, which once were classed with daily bread in very many households, rich and poor alike, are now luxuries less common than tea, and have, indeed, in an ever-widening range of popular opinion, come to be no more than the stimulant accessories of impaired nutrition. They certainly should not, as a rule, be taken apart from food, and neglect of this precaution has probably much to do with the formation of the drinking habit. We have heard it suggested, in conformity with this view, that licensed houses should be required to supply food as well as intoxicant liquor, and it is possible that in that case the consumption of the latter would be less than it is. Every means of restraining drunkenness is helpful to the cause of temperance, therefore we willingly note the suggestion. At the same time, it should be remembered that there is not for those whose health is good much help, if any, in alcohol, that it rather hinders than assists their energies, and that non-stimulant restoratives and food can best recruit them after toil; whilst thirst, the want of water, is best allayed by merely making good that want.—*Lancet*, October 30.

ALCOHOL IN HOSPITALS.—The *Irish Temperance League Journal* is perplexed by the diversity of practice as

regards the amount of alcohol used in hospitals. If it be admitted that the question of its use is a scientific one, our contemporary claims that there should be some approach to uniformity. He cannot understand why London hospitals should cost 4s. 8½d. per patient, while 2s. 5¼d. suffices in the country. Does the same difference hold of the doses of opium, digitalis, and other drugs? This is rather a superficial question, ignoring the dietetic use by the people of some alcohol. It is more reasonable to be embarrassed by the different practice of hospitals in the metropolis; so that while, for example, University College spends only 2s. 7d. per patient on alcohol, St. George's spends 4s. 9d. Perhaps a still greater difficulty, on the scientific theory, is the difference in practice between physicians of the same hospital. We demand for our professional brethren full liberty of action in regard to this question, but we would remind them of the gravity of it. It is grave in this sense, that if a man goes into a hospital, and is plied with stimulants by eminent physicians, he is very apt to continue the treatment himself when he comes out. Another point made by critics is the impossibility of apportioning the expenditure on stimulants to officials and patients. The Secretary of the Middlesex Hospital has calculated that 66 per cent. of the expenditure on alcohol is for its consumption by officials.—*Lancet*.

TEMPERANCE DRINKS.—Mr. A. W. Stokes, public analyst, in a report presented to the vestry of the parish of St. Matthew, Bethnal Green, states:—"Not long since a report was raised in Parliament that some temperance drinks contained rather large proportions of alcohol. I therefore determined the alcohol in all the samples of ginger-beer and ginger-ale submitted to me. The largest quantity found was 1·2 per cent. of proof spirit, and the lowest 0·2 per cent.. These quantities are so small as to be really of no moment either to the Excise officer or to the teetotaler. The presence of this small amount of spirit is essential, and is due to the mode of manufacture. Ginger beer is essen-

tially a solution of sugar that is caused to ferment either by exposure to the air, or by the addition of a little yeast. It is flavoured with ginger, and the head or foam is produced either by white of egg or by quillaia bark. In the process of fermentation the alcohol is necessarily produced. A perfect non-alcoholic drink is still greatly needed. Most of the mineral waters to the popular palate are unsatisfying; they leave behind either a vapid taste or a sweet cloying flavour. A beverage that can well replace the national drink—beer—has yet to be found. A total of forty-three samples of drugs and liquids has been submitted to me for analysis by your inspectors during the past quarter. These consisted of twenty-four samples of drugs and nineteen of mineral waters; and this is the first quarter, I think, in which no sample has been found to be adulterated."

WINE-DINNERS.—Writing to the *British Medical Journal* (October 16), "Nephelist" said:—"I am annually invited to attend the Old Students' Dinner of my Alma Mater. The charge is one guinea for each person, inclusive of wine. Being a total abstainer, and conscientiously opposed to assisting my neighbour to intoxicate himself in any degree, I am obliged to refuse to pay for intoxicating liquor which is supplied *ad libitum* for the guinea. Hence I am shut out from the feast altogether, and deprived of the pleasure of renewing old acquaintances. But, apart from personal considerations, I wish to enter a protest. It seems to me that, by countenancing a guinea dinner, including wine, since it is well known that half that sum will amply suffice to pay for a most luxurious feast, exclusive of wine, and leave a handsome margin of profit, the medical profession publicly declares that half a guinea's worth of intoxicating liquor is a proper average quantity for an adult man to consume at one meal. Shades of Anstie and Parkes! What think ye of that? Such an arrangement is a direct encouragement to excess, and this view of it must, I think, compel reform. The medical profession is bound to set

a better example. The annual dinner of the Association is differently arranged; and though I think every wine-drinker should be left to pay for whatever he orders, yet the very least I can ask for is that a separate charge shall be made to those who desire to take intoxicants, and that abstainers shall be able to join the feast without complicity in the curse of the country. Please lend this reform your powerful aid."

A VENERABLE TEETOTALER.—M. Chevreul, the distinguished French chemist, and philosopher, who was born at Angers on August 31, 1786, completed on Tuesday 31st August, his hundredth year, and Paris celebrated the occasion by unveiling a statue in his honour, and by a literary, scientific, and artistic banquet and festival in the evening. This centenarian has never been out of harness since he was seventeen, at which age he left his native town of Angers to enter the laboratory of Vauquelin, at the College of France. M. Chevreul was simultaneously Directing-Assistant of Vauquelin, Professor of Chemistry at the Charlemagne Lyceum, Assistant Professor at the Museum of Natural History, and Examiner in Chemistry at the Ecole Polytechnique. He was then named Director of the Dyes Department and Special Professor of Chemistry at the Gobelins, a post he has filled for the last seventy-three years, and which for seventy years he has combined with the function of Director of the Natural History Department at the Jardin des Plantes. This extraordinary old man was never prevented a day by illness or infirmity from getting through his work until within the present year, when he had an attack of bronchitis and low fever. He sleeps well when he goes to bed, but is not a great sleeper. "Early in youth he contracted a great repugnance for wine and liquors of all kinds, and has never allowed a drop to pass his lips—a point for the teetotalers. He has never smoked, either—one for non-smokers." His life-long stimulants have been coffee and cold-water baths. To the action of coffee in preventing

waste of the system, and to his moderation in eating, he ascribes in a great degree his longevity. He is a great milk drinker, but milk unmixed with some other fluid does not agree with him.

THE LONGEVITY OF TEMPERANCE.—The British Medical Association has of recent years instituted special inquiries into various matters affecting health and disease. One of these investigations was into the interesting and vexed question of centenarianism. Many men of thoughtful mind have denied that anyone in our day has attained to one hundred years of age, and the Association, under the able and judicious guidance of the learned Professor G. M. Humphry, of Cambridge, has endeavoured to arrive at an accurate solution of the problem. A form of inquiry was issued by the Collective Investigation Committee, and the report, with an analysis of the facts stated in the returns, has just been published as a supplement to the *British Medical Journal* of last week. Fifty-two cases were recorded, the average age of the centenarians having been over 102 years. Detailed particulars are given as to the habits of forty-six of the long of life, embodying most useful information in the interests of temperance. Of the forty-six, no less than twelve had been abstainers all through life, or for a long period; twenty took very little intoxicating drink; eight were moderate drinkers; one got drunk on festive days; one drank beer freely; one drank like a fish all his life long, as often as he could get strong drink, but, it is added, that he could not often get much. "He would if he could," but, alas! "he couldn't." As to their present habits, fifteen of the forty-six take no alcohol, twenty-four take very little, six are moderate, and one takes a great deal of beer. The exceptions are clearly of little weight against the rule. These modern Methuselahs have as a whole found out by experience that temperance is of priceless value, and have accordingly practised this virtue. At present one-third of them are abstainers.—*Temperance Record*, Dec. 16.

THE
MEDICAL TEMPERANCE JOURNAL,
April, 1887.

Original Contributions.

THE ABSOLUTE AND DIFFERENTIAL DIAGNOSIS
OF ALCOHOLIC PARALYSIS.*

By WALTER PEARCE, M.D., B.S., B.Sc. (Lond.), M.R.C.P.

THE subject and title of this paper, "The absolute and differential diagnosis of Alcoholic Paralysis" was suggested by our distinguished president.

The fact that alcoholic paralysis has been recently much discussed in medical societies and reported upon in journals, had directed attention to the recognition of paralysis which is the result of alcoholism, but which is difficult in some cases to readily distinguish from nervous degeneration due to other causes.

The object is to give an epitome of the symptoms of alcoholic paralysis, obtained from the best authoritative sources, and then to discuss the diseased conditions which may cause errors of diagnosis, concluding with clinical cases in illustration.

The history of the literature of the subject is given at some length in Dr. Dreschfeld's "Further Observations on Alcoholic Paralysis."† He credits an American author, Dr. James Jackson, with having written a very accurate and complete account of alcoholic paralysis as early as 1822-3, entitled, "On a peculiar Disease, resulting from the use of Ardent Spirits." Magnus Huss, who has been usually credited with having given the first description of a paralytic form of chronic alcoholism, wrote in 1852. The subject has received much attention in

* Read at a meeting of the British Medical Temperance Association, February 18, 1887.

† *Brain*, January, 1886.

Europe and America ; the chief contributors in this country have been Drs. Wilks, Buzzard, Broadbent, Dreschfeld, Ross, and Haddon.

Definition.—Alcoholic paralysis is a form of peripheral neuritis, resulting from excessive drinking of alcoholic liquors. Dr. Ross, at the meeting of the British Medical Association at Brighton, restricted the discussion on peripheral neuritis to an “important group of inflammation of nerves, in which larger and larger number of the trunks are successively invaded, the disease beginning at the periphery, and extending towards the centre.” Alcoholic paralysis is one of the many paralyses which result from the circulation of poison in the blood ; lead paralysis is produced by a mineral poison ; diphtheritic and syphilitic paralyses are the result of animal poisons ; and probably micro-organisms are the cause of the paralysis in anæsthetic leprosy.

Alcoholic paralysis had been regarded by Dr. Broadbent* as a functional disorder, and Dr. De Watteville suggested that it resulted from a dynamic change only in the spinal cord. But the opinion that an essential change is to be found in the peripheral nerves is gaining ground among pathologists. The examinations in five fatal cases, reported by Dr. Hoddin† to the Pathological Society, would seem to complete the evidence required to establish the presence of a peripheral neuritis. Dr. Buzzard has thrown out a suggestion that there is an irritative influence exerted by the poison in the blood in the vasomotor centre of the bulb and cord, which affects the peripheral arterial system, and causes the degeneration of the peripheral nerves.

Etiology.—The exciting cause of alcoholic paralysis is the alcohol circulating in the system.

Adults are almost alone attacked, and cases occur much more frequently among females than males.

Heredity can have no direct influence in the transmission of the disease, but neurotic subjects, with hysterical or melancholic temperaments, will more readily fall victims to alcoholism.

A previous attack is very prone to be followed by recurrences ; and those also are attacked who have long been in the habit of excessive drinking.

Climate and season of the year have no direct influence.

This is not the occasion on which to discuss the etiology of alcoholism.

Previous history of drinking habits can rarely be obtained from

* Medical and Chirurgical Transactions, February, 1884.

† *British Medical Journal*, January 1, 1887.

the patient, but must be established as far as possible by the testimony of friends and neighbours.

The Attack: Early Stage.—The patient suffers with more or less headache, sickness, and loss of appetite, restlessness, and sleeplessness. There is a haggard, listless expression, with indifference to home duties or business. The marked moral changes which accompany habits of intemperance are often present.

The symptoms of paralysis begin with a feeling of increasing weakness in the legs, or in the upper extremities if these are brought into active daily use. At this time cramps and numbness affect the legs, and as the case progresses the patient staggers, and has difficulty in maintaining the erect posture. At an early stage the patellar tendon reflexes are found much decreased, or absent. The gait, which is ataxic, is characterised by the dragging of the toes, owing to the greater paralysis of the extensors of the leg. There may also be the necessity of looking at the feet in walking, as in ordinary cases of *tabes dorsalis*.

Dr. Dreschfeld has divided alcoholic paralysis into certain types.* The first he designated alcoholic ataxia, in which there are symptoms resembling locomotor ataxy, but in which hyperæsthesia, hyperalgesia, vaso-motor disturbances, paralysis, trophic and mental symptoms, are absent.

The course of the disease varies much, but I purpose to confine myself to the more common type of alcoholic paralysis, which most observers have described.

Later stage.—The signs and symptoms of the disease become well established after a heavy drinking bout. Prodromal symptoms may have existed for months, but the most advanced paralysis may be established within three weeks of the outset of weakness in the legs. The patient, unable to stand, lies perfectly helpless in bed, often midway between the dorsal and lateral positions: the lower limbs are frequently flexed and the feet extended. The general nutrition is defective, but the intellect is in most cases clear, and the articulation distinct.

Motor Disturbances.—The paralysis is most marked in the lower extremities, the extensors of the thigh are very feeble, so that the limb cannot be raised from the bed: the weakness of the extensor and peronei muscles of the leg is evident from the dropped feet, to which attention has been specially called by Dr. Buzzard.† Dorsal flexion of the foot is impossible, and the feet and toes may lie extended in the same line with the leg, the

* *Brain*, July, 1885.

† Paralysis from Peripheral Neuritis.

feet assuming the position of talipes equino varus. In the upper extremity the grasp of the hand is weak, and the patient is unable to extend the wrists when the forearm is held in the prone position. The extensors may be so completely paralysed as to produce the double wrist drop which is characteristic of lead paralysis. If the disease advances further the diaphragm ceases to act, and later on the interossei muscles also: the patient dying of asphyxia.

Cutaneous reflexes are generally diminished, but over the abdomen they are often found much exaggerated. The tendon reflexes are almost entirely lost, but here also exceptions may be met with. The extensor muscles do not re-act to the faradic current, and the re-action of degeneration is present.

The movements of the pupils are often sluggish. Disorders of the external ocular muscles are rarely seen, but Dr. Hadden has reported a case of nystagmus. The functions of the bladder and rectum are normal.

There are no motor paralyses of the tongue and lips, and the voice is generally strong and distinct, until the approach of a fatal termination. Fine tremors of the hands are often observed.

Contraction of the hamstring muscles, and also of the biceps in the arm, producing a condition resembling tetany (Ross, "Nervous Diseases") is the result of the wasting of the quadriceps extensor, and of the triceps. A case is reported by Lanceraux, in which the muscles of the calves were applied to the legs.

Sensory Disturbances.—Subjective pains are felt in the lower extremities: distressing burning and tearing pains, as well as numbness, sensations of pins and needles, and other forms of paræsthesia. Dr. Dreschfeld has pointed out a perversion of the sense of temperature, all objects when touching the skin feeling cold. The same observer has also drawn attention to visceral neuralgias in chronic alcoholism. Pain is also often referred to the back, where there may be tenderness on pressure.

Cutaneous hyperæsthesia is sometimes present, but it is not so marked as muscular hyperæsthesia, which causes loud cries, especially when the muscles of the calf are pressed on. Hyperæsthesia may give place to anæsthesia in the later stages. Vision is good, and no optic neuritis has been detected.

Vaso-motor Disorders.—There is redness and coldness of the extremities, especially of the feet, which become œdematous on the dorsum; the backs of the hands may also swell. The œdema, which soon passes away on raising the feet, very quickly returns when they are allowed to hang down over the edge of the bed. Dr. Broadbent* has described a case where the feet could be seen to

* Med. Chir. Transactions, February, 1884.

swell, so that in a few minutes they became distinctly puffy. In other forms of peripheral neuritis vaso-motor paralysis has extended so far as to produce gangrene of the extremities, as in Raynaud's disease, but no case has yet been recorded of gangrene due to alcoholic paralysis.

Trophic Disturbances.—There is great and rapid wasting of the muscles, especially of the extensors. The atrophy of the interossei muscles of the hands produces the "main en griffe" of Duchenne. The joints when contracted often become red, swollen, and painful, especially the knees. It may here be remarked that joint disease allied to gout is very prone to appear in alcoholic paralysis as in lead paralysis. Acute bedsores do not appear.

Psychical Disorders.—Mental symptoms may be altogether absent. In the early stage there may be restlessness, sleeplessness, loss of memory, and diminished intelligence. In certain cases there is stupor and melancholy, or the patient talks freely as if in a muddled condition of mind, or in a joyous exaggerated manner. This mental condition may pass into delirium with delusions and hallucinations.

There is a peculiar form of delirium often observed and well described by Dreschfeld,* in which the patient, with some apparent cunning or design, speaks with confidence of daily walks, household duties, business, or professional matters, with such plausible assurance as would lead one to believe the statements made, but for the helpless condition of the patient.

The disorders of the circulatory, respiratory, and digestive systems, which are often present, are rather due to the primary effects of alcohol than to secondary manifestations of the paralysis.

Course and Termination.—There is marked difference in the severity of the cases, and probably many mild cases pass unrecognised. Most cases recover completely, but some become rapidly fatal from paralysis of the muscles of respiration. Chronic cases terminate fatally from cerebral complications or cirrhosis of the liver. Relapses are common.

Diagnosis.—The most essential points in the diagnosis are as follows :—

1. A progressive paralysis affecting the extensor muscles, appearing first in the lower extremities, with loss of patella reflex.

2. Subjective pains, and hyperalgesia.

3. Rapid wasting of paralysed muscles, with loss of faradic excitability.

4. Double foot and wrist drop.

* *Brain*, January, 1886.

5. Static œdema of extremities.

6. The fact that the patient has been in the habit of indulging in alcoholic excess. Owing to extreme dexterity of secret drinkers in concealing the vice the medical attendant may be put off the scent.

The disease does not run the same course in every case, the symptoms are differently grouped, and have varying degrees of prominence in each case.

Differential Diagnosis.—I. *Tabes Dorsalis* may be confounded with the ataxic form of alcoholic paralysis described by Dreschfeld: but in the latter the attack follows alcoholic excess and improves rapidly under treatment. Also the Argyll Robertson phenomena are absent, as well as myosis, arthropathy and the reaction of degeneration. In alcoholic gait the toes drag, and the sole of the foot is seen from the back.

II. A case of alcoholic paralysis with nystagmus would differ from disseminated sclerosis in the absence of rhythmical tremors of the head, of spastic paralysis and hyperalgesia.

III. General paralysis is distinguished by the peculiar delusions of grandeur, the paralytic speech and the trembling lips. In a slowly progressive case without mental symptoms in an early stage the diagnosis from alcoholic paralysis would be difficult, more especially if the patient is known to drink.

IV. Syphilis is itself a cause of general paralysis, and also of peripheral neuritis and locomotor ataxy. The benefit of specific treatment will best help the diagnosis.

The other forms of peripheral neuritis must be distinguished.

V. Lead paralysis often gives difficulty in diagnosis from alcoholic paralysis, especially when the two causes of poisoning co-exist. The sensory symptoms are rarely present in lead paralysis, which seems to select the motor nerves: the blue lead line is a marked sign, but colic is not a reliable differential sign, as it may be due to visceral neuralgia of alcoholic paralysis, observed in some cases.

VI. Non-alcoholic multiple neuritis runs a more acute course than alcoholic paralysis, it is more uniformly progressive, the paralysis is not confined to the extensors: there is hyperæsthesia, but not usually the characteristic hyperalgesia. Lastly, cerebral symptoms are always absent.

VII. In diphtheritic paralysis, there is weakness rather than total paralysis, a varying amount of anæsthesia, no muscular atrophy, and faradic excitability but little reduced. In both diseases the patella reflex is lost, and in certain cases the clinical characters approach each other.

The relation to alcoholic paralysis of certain spinal atrophic analyses will next be taken in review.

VIII. The atrophy of alcoholic paralysis, when seen in the late stages, resembles the wasting of progressive muscular atrophy, but here the sensory symptoms are absent, and there is no reaction of degeneration; also the atrophy to produce the "main en griffe" commences in the hands, and not in the extensors.

IX. The absence of sensory symptoms serves to distinguish general spinal paralysis or chronic anterior poliomyelitis from alcoholic paralysis.

X. In acute anterior poliomyelitis the diagnosis from peripheral neuritis may be difficult. Dr. Buzzard* gives the following points:—

a. Paralysis is more complete, and sensory symptoms are absent in acute anterior poliomyelitis.

b. Groups of muscles are attacked simultaneously in acute anterior poliomyelitis.

c. Tenderness on pressure over nerves in peripheral neuritis.

XI. In acute ascending paralysis (Landry's paralysis) the order of the development of the paralysis differs, the loss of power extends from below upwards, and attacks the intercostal muscles before the diaphragm. There is absence of hyperæsthesia and myalgic pains, also the double wrist drop is not observed.

Certain inflammatory diseases of the spinal cord will be next considered.

XII. In chronic meningo-myelitis there may be great wasting, and severe pains, but the latter precede the paralysis. The tendon reflexes are increased, and there are other symptoms of spasmodic paralysis in the lower extremities.

XIII. Spinal lepto meningitis is accompanied with deep seated pain in the back, probably with spinal rigidity, and spasm of muscles of the limbs.

XIV. Cervical pachymeningitis commences with paralysis of the arms, not confined to the distal ends of the nerves. The history also differs.

XV. Paralysis due to pressure on the cord will be accompanied by more or less paralysis of the bladder, and a tendency to spastic paralysis, and the formation of acute bedsores.

XVI. Hæmorrhage into the cord has a sudden onset, with paralysis of the bladder and sphincters.

XVII. Exaggeration of knee jerk has been noticed by Dr. Buzzard and others in alcoholic paralysis, and he considers that this might be due to the inhibitory influence of the cortex cerebri, caused by the action of the alcohol. He cites several anomalous

* 'Paralysis of Peripheral Nerves.'

cases which appear to be best explained as being peripheral neuritis of alcoholic origin.

xviii. Hysterical, reflex, and functional paraplegia must receive consideration when investigating possible cases of alcoholic paralysis.

xix. Dementia, with paresis of lower extremities, has been known to have been erroneously attributed to alcoholic paralysis.

xx. Heart disease and Bright's Disease may be suspected in alcoholic paralysis, owing to the prominence of œdema of the feet, a rapid weak pulse, with acute dilatation of the heart. The absence of albuminuria and of tension in the pulse will exclude Bright's Disease, the cardiac condition will be explained on noting the symptoms of alcoholism.

Many interesting cases were cited, which had led to difficulty and errors in diagnosis, especially in lead paralysis, general paralysis, spastic paraplegia, and heart disease.



ALCOHOL IN MEDICAL PRACTICE.

By H. J. HARDWICKE, M.D., F.R.C.S., Sheffield.

AFTER fifteen years of active practice as a physician, perhaps I may be permitted to give my experience as to the value of alcohol, as also to the frightful manner in which it is too often made the active cause of disease and wretchedness. It seems to me that, while it is the duty of every physician in the country to do his utmost to discourage the habitual use of alcohol among his patients, he should at the same time guard against the danger of rushing to the other extreme, and obstinately refusing to make use of the drug under any circumstances. My own experience leads me to believe that alcohol is a valuable remedy in the hands of a cautious physician, and that it will effect a good result in some cases when almost all other remedies will fail. I have no hesitation in asserting that alcohol acts as a boon in some diseases, and prolongs life when it would otherwise be extinct. Those who have made lunacy and kindred maladies their especial study will bear me out in stating that few drugs operate so kindly in removing delirium and maniacal excitement, and producing healthy sleep where it is morbidly absent, as alcohol does. In many cases of advanced consumption of the lungs, also, alcohol most assuredly acts as a food by sustaining the vital energy, and thereby prolonging life, frequently for weeks or months. In sudden hæmorrhages from the body, again, alcohol is our sheet-anchor, without which the patient would often be dead in an hour from loss of blood. I mention these instances of the value of alco-

hol in order to make it clear that, like many other poisonous drugs, it may be beneficially applied to the human body by skilful people. The same may be said about opium, arsenic, and many other noxious drugs. They are useful in certain *diseased* conditions of body; but the abuse of them by persons in *robust health* leads inevitably to most serious consequences.

Unfortunately, the number of cases the physician meets with that derive benefit from the use of alcohol is infinitesimally small compared to that of those who are suffering from the abuse of it. I have no doubt whatever that the large majority of cases of acute inflammation, and other maladies of a similar nature, are brought about directly or indirectly by the abuse—by which I mean the regular use—of alcohol. My experience has led me to arrive at the conclusion that a person of average health and strength ought never to touch alcohol. Time enough to touch it when disease has laid its hands upon the body, and the physician orders it, like he would order any other medicine. Then, and only then, ought alcohol to be taken. Some people when I tell them this ask what they are to drink to their meals in place of the beer or wine they have been accustomed to, and appear staggered when I reply that nothing can be half so good for them as pure water. Yet this natural beverage, which, to a person whose taste is not depraved, is a delicious and most refreshing draught, possesses, unadulterated, precisely what the human body requires for its nourishment—viz., oxygen and hydrogen. The air we breathe supplies us with oxygen and nitrogen, while the food we eat supplies nitrogen and carbon. However, there are some who profess they really cannot drink water, calling it “insipid” and “tasteless.” For these peculiar people coffee, tea, cocoa, milk, &c., may be tried, and probably one or other will be found to suit. These are not the cases in which abstinence from alcohol is *apparently* almost impracticable. These are healthy persons, who, if their minds are made up, readily tumble into the way of drinking the new and harmless drinks. The cases in which the physician finds himself in a difficulty are those where there is actual disease, or a tendency to disease, involving great debility. In cases of actual disease of a wasting character it is, as I have already said, often necessary to order alcohol as medicine, with very good result. But there are hundreds and thousands of delicate people in the country who have dragged their existences along weary and often painful roads, supported often enough by alcohol, which stimulates them for a time, and then leaves them in a far worse condition than before? What about these people? Are they to give up the glass of beer or wine they have been accustomed to? Yes. Water, which comes to them undoctored by poisonous drugs, will supply them with all they require in the shape of beverage. For the

rest, let them pay attention to the food they eat, and see that they get what is calculated to do them most good, avoiding artificial dishes, pickles, and condiments ; and let them be as careful with the air they breathe, taking care that it is pure and uncontaminated with organic germs, and avoiding sudden and great changes of temperature. Attention to these matters will make a real and beneficial change, far better than the flickering and fleeting stimulus excited by taking alcohol.

Such people as suffer from diseased bones, rickets, scrofula, tendency to consumption of the lungs, enlarged glands, liver affections, indigestions, poorness or badness of the blood, nervous exhaustion and general debility, would be far better in health if they paid attention to the matters related above and absolutely declined to take alcohol except under medical orders. If, after having been in the habit of taking a glass of beer or wine to meals, such people as these should feel a sinking feeling on taking to the water, let them try a remedy I have adopted with the greatest success amongst my patients and recommended with as much success amongst my friends. It is to take a small quantity of Du Morry's Malto-Phosphatic Food in a glass of water or milk, or in any farinaceous food, with their meals. This chemical food can be obtained only from the best chemists, who procure it from Messrs. Newbery and Barclay, of London, the Sole Importers. Not only will this mixture prevent that distressing feeling of faintness, but it will effect a very beneficial influence upon the condition of the blood and produce increased vitality in the nervous, muscular and bony structures of the system. It is this very feeling of faintness that prevents scores and hundreds of people, especially ladies, acting like sensible beings and giving up the abuse of alcohol. Now here is a remedy: with Du Morry's food they can ward off that faintness at the same time that they are promoting the health and vigour of their bodies. But with it or without it, let alcohol consumers look the consequences of persistence in the face. Let them remember well that he who feels the want of alcoholic stimulus has drawn a very heavy bill on his constitution. The sooner he repairs the error the better for him. The physician has it in his power to a very large extent to guide the mistaken one into the right path; and let me suggest here the propriety of medical attendants on the sick and debilitated *always* ordering alcohol *as medicine*, properly dispensed, dosed and labelled, and if necessary flavoured. I know of cases where brandy has been ordered to patients who really required it at the time, but who afterwards continued it and became the slaves of it, simply because the administration of the drug was left to the patients themselves. Here is a source of the greatest danger, which might be obviated by the adoption of the plan I have suggested.

Miscellaneous Communications.

THE PREVAILING INDIFFERENCE TO INEBRIETY.*

By TUDOR TREVOR, *Leeds.*

I FIND myself placed this afternoon in a somewhat difficult and unenviable position, as I have imposed upon me the task of reading a paper here to-day, which I feel myself quite unable to perform in any degree worthy of the subject, or adequate to the specially cultivated intellects of those who gather within the walls of this classic chamber. Nevertheless, I have undertaken with much diffidence to perform that task (which I may say was most unexpectedly allotted to me by our esteemed and learned President), in token, not only of my great respect for him as an eminent scientist, a true-hearted philanthropist, and a Christian physician, but also of my real interest in the noble object and work of the Society I have this day the honour to address, and of which I have the great privilege of being a humble associate.

Let me, however, at the outset, say that I am not here to claim your attention, ladies and gentlemen, members of the Society for the Study and Cure of Inebriety, to any learned theoretical disquisition, but to submit, *quanta valeant*, a few simple thoughts, after eight years of practical work as an Organising Secretary of the C.E.T.S. in the two Dioceses of Carlisle and Ripon, and a previous experience of more than twenty years of life in London and India as a member of Her Majesty's Civil Service.

There are, however, special circumstances connected with my labours as a worker in the temperance cause, to which, perhaps, I more particularly owe my appearance here on this occasion, and they are known to Dr. Norman

Kerr, viz., that I have interested myself practically in the endeavour to rescue drunkards by personal attendance on them, and that I have made an attempt (unsuccessful though it was) to establish a Church Home for Inebriates in the North of England. This attempt, though begun in 1882, has not, I regret to say, made any progress beyond the preliminary circular, simply because there has not been a sufficient financial response to my appeal for funds, though I am ready and eager to put my scheme into execution as soon as I have it in my power to do so. Hence the title of my paper to-day, and the grounds on which I venture thus personally to complain of the "Prevailing Indifference to Inebriety."

I need not, I feel sure, spend any time this afternoon in attempting to prove the existence of this indifference—for its reality and grossness must indeed be only too clear to every observant man and woman. But it may not, perhaps, be altogether out of place if I direct attention for a few moments, and very briefly, to the extent of the curse of Inebriety, at any rate in certain directions, and to add some remarks as to its etiology or causes of existence, before I comment on the indifference shown towards it, and the efforts made for its cure or mitigation.

1. Inebriety (or drunkenness) causes *pauperism* by the waste of time and money; and it is computed that to it is owing at least 70 per cent. of the large army of paupers, who are maintained by this country at an expense of £10,000,000 per annum.

2. Inebriety is the chief cause of *crime*, for the assertion made by Mr. Justice Hawkins has been over and over again corroborated by judges,

* Read at a meeting of the Society for the Study and Cure of Inebriety, January 4, 1887.

magistrates, and prison officials of every kind, that nine-tenths of the inmates of our various gaols are made criminals by strong drink. The commitments for drunkenness in London in 1875 were over 30,000, and in Liverpool they have been estimated at about 20,000 a year. Most opportunely for my purpose, the most recent statistics on this subject have been supplied to the *Pall Mall Gazette* by the Rev. J. W. Horsley, late Chaplain of Clerkenwell Prison, one of the most vigorous temperance reformers of the day; and I think I may, with great advantage, here incorporate them as extracted by the Editor of the *C. E. T. Chronicle*.

The figures refer only to England and Wales.

(1) The number of persons summarily proceeded against for being drunk, or drunk and disorderly, for the last six years, is:—1880, 172,859; 1881, 174,481; 1882, 189,697; 1883, 192,905; 1884, 198,274; 1885, 183,221. The steady and alarming increase which we noted for five years is therefore checked, and we may hope that this is not due to a mere pause or temporary improvement.

(2) The places with the largest totals for drunkenness are as under, those being placed in this black list which have over 2,000 apprehensions for drunkenness in a year:—London, Lancashire, Liverpool, Durham county, West Riding, Manchester, Stafford county, Glamorgan county, Newcastle, Cheshire, Birmingham, Northumberland, Worcester county, Nottingham borough, Derby county. On this we may remark that in London, Manchester, Newcastle, and Durham county, the figures of last year are lower than any in the four preceding years, and this may be taken as a proof that commercial depression decreased the beer-purchasing power in these places, as intemperance has always been noticed to increase with prosperity. The counties of Glamorgan and Cheshire would seem to be in the opposite case. Salford, Cumberland, and Shropshire are to be congratulated on having this year dropped out of this black list.

(3) Other offences against the Li-

censing Act, 1872, amount to only 10,233, as against 14,347 and 15,177 in the previous years; but as this is not equal to the number of licensed houses in London alone, and as over 300,000 licenses are issued in the United Kingdom, and as licensed "victuallers" are constantly complaining of the oppressiveness of this Act, and the number of possible offences under it, it is obvious that these offences are either far more rare than any one out of "the trade" believes, or that the offenders are remarkably successful in escaping detection. In the whole of England and Wales there were only eighty-one apprehensions for adulterating liquor, which would seem to prove how utterly unnecessary is any Bill for Pure Beer, and how ludicrous the contention of those who are always maintaining that it is only the adulteration that does the mischief.

(4) Among those apprehended for indictable offences, or summarily proceeded against, 39,481, of whom 10,540 are females, are described as habitual drunkards. Many, however, come under other heads—for example, disorderly prostitutes, of whom there were 23,602 apprehended; and, moreover, habitual drunkards have not invariably the good fortune to fall into the hands of the police.

(5) Under the head of Coroners' Returns, 384 deaths are described as being from excessive drinking. A perusal of the daily papers will, however, show how rarely, from various reasons, this verdict is recorded when it can be avoided. And these figures are again infinitesimal (even for London alone) compared with those the ordinary bills of mortality would give if medical certificates of death were less euphemistic.

(6) Of 819 houses the resort of thieves, 405 are public-houses, and 311 beer-shops. As it is an offence to harbour such persons, it would appear that it is found useful to allow a certain number of such licensed houses to remain as coverts that may be drawn with a certainty of finding foxes.

(7) The offenders who have been convicted for any crime above ten times are 5,074 males, and 8,981 fe-

males, or 10·1 and 33·2 per cent. respectively on the total commitments. In other words, nearly a third of all women in prison, whose offence is not the first, have been in over ten times, and may fairly be described as incurables. This preponderance of women, who have caught up, outstripped, nearly doubled, the men in this special class, is almost entirely due to the distinctive character and the increase of female intemperance, and the absence of any effort on the part of the State to deal rightly with the disease. The women's percentage has increased in the last five years, thus — 27·4, 29·3, 30·2, 31·6, 33·2, though the men have never been higher than 10·1.

(8) The daily average population of the sixty-one local prisons was 15,375, at the cost of £23 2s. 11d., per head. The daily average of the eleven convict prisons was 8,339 at £35 19s. 3d.; and there were 146 criminal lunatics. Adding the 4,389 juvenile offenders in reformatories, and 12,275 in industrial schools, we have a daily average of 41,124 in confinement, at a cost to the Treasury alone of £998,218. As three-fourths of crime is directly or indirectly attributable to intemperance, the cost of this luxury may be readily computed. It may be added that the cost of the police, half of whom would not be needed but for intemperance and its consequences, is £3,542,437.

3. Inebriety is a very large factor in the production of both Insanity and Idiocy: nearly half of the victims of each of these terrible maladies may be said, without exaggeration, to lie at the door of Intemperance.

4. Inebriety feeds our Reformatories and Industrial Schools, and by it the number of Orphans is largely increased, and so it spreads its baneful influence to following generations.

5. Inebriety shortens, if it does not altogether destroy, at least 120,000 lives per annum. Here, again, I am most opportunely supplied in the *Alliance News* of 18th December last with some recent and most useful statistics. In the supplement to the 45th Annual Report of the Registrar-General, the medical adviser, Dr.

Ogle, states that "the mortality of men who are directly concerned in the liquor traffic is appalling." The following are the incontestable figures which he gives, as the results of his laborious investigation for the three years 1880-1-2. In the first place he found that 1,000 deaths occurred annually in every 64,641 males living between 25 and 65 years of age. And in the next place he discovered the following great variations in the annual death-rates of persons engaged in different trades and occupations:—

Clergymen and ministers ...	556
Farmers and graziers ...	631
Labourers in agricultural counties ...	701
Males in selected healthy districts ...	804
Carpenters and joiners ...	820
Coal miners ...	891
Masons and bricklayers ...	969
Plumbers, painters, and glaziers ...	1,202
Brewers ...	1,361
Innkeepers, publicans, and beer-dealers ...	1,521
Public house and hotel servants ...	2,205

6. By and through Inebriety our men are demoralised, our women degraded, our children distressed, our country disgraced, and our God dishonoured.

7. Finally, Inebriety by the destruction of that God-placed inward monitor in man, the conscience, seduces tens of thousands of ransomed souls, and shuts them out eternally from their inheritance in the kingdom of heaven.

As to the etiology or cause of Inebriety, I venture unhesitatingly to declare, even in the presence of this learned assembly, that primarily and radically it is Strong Drink. There are doubtless various circumstances of life which tend to develop or confirm the habit of inebriety; but surely, in the first instance, the appetite for intoxicating drinks is an acquired, and not a natural one. And, therefore, I contend, with all submission, that the teetotaler's maxim, "that strong drink is the cause of drunkenness," is in

accordance with the stern logic of fact, if it does not quite satisfy the polished reasonings of the pedagogue!

In regard to the dire and fatal effects of alcohol on the human system, from a scientific point of view, it would be an act of simple impertinence on my part to dilate in the presence of so many professors of the learned art; but in support of my theme I will just venture to recall the carefully expressed opinions of two of the most eminent and honoured physicians of the present day.

Dr. Benjamin Ward Richardson, whose researches into this particular branch of medical study are equal to, if not beyond, those of any other authority, living or dead, says:—

“I have learned purely by experimental observations, that in action on the living body, this chemical substance, alcohol, deranges the constitution of the blood, unduly excites the heart and respiration, paralyses the minute blood-vessels, increases and decreases, according to the degree of its application, the functions of the digestive organs, of the liver, and of the kidneys, disturbs the temperature, and lessens the muscular powers.”

“I cannot define it better indeed than to say that it is an agent potent for evil, as it is helpless for good. It begins by destroying; it ends by destruction; and it implants organic changes which progress independently of its presence, even in those who are not born.”

In regard to the very prevalent idea that alcohol is a necessary food for man, Dr. Richardson observes that:—

“It was discovered that alcohol, being a substance very soluble in water, would enter the body by every absorbing surface—by the skin, by the stomach, by the blood, and by inhalation of its vapour from the lungs. But so greedy is it for water, that it must first be diluted before it can be freely absorbed. If it be not so diluted, it will seize water from the tissues to which it is applied, and will harden and coagulate them. In this way it may even be made to coagulate the blood itself, and in some instances of rapid poisoning by it, death has

occurred from the coagulation of the blood in the vessels of the heart.”

“Such,” he says, “independent of any prejudice or party, or influence of sentiment, are the unanswerable teachings of the sternest of all evidence, the evidence of experiment, of natural facts revealed to man by experimental testing of natural phenomena.”

Let me now quote from an address delivered by Sir Andrew Clark, Physician-in-Ordinary to Her Majesty the Queen, and medical adviser to Mr. Gladstone, in the Schoolroom of All Souls', Marylebone, in connection with the Parochial Branch of the C. E. T. S., on “The Action of Alcohol upon Health,” the tenth thousand issue of which, published by the C. E. T. S., I have now with me. Many of the sentiments contained in that address I had the privilege to hear the learned doctor utter at one of the annual meetings of the C. E. T. S. in Lambeth Palace, and I am sure that every word of that address deserves to be read and re-read in every household in the country; for, though the doctor very clearly expresses himself in what is popularly called “moderate language,” his opinions are none the less decided and definite. My time will allow me to make only two or three short extracts.

“I am going to speak about the influence of what I call the excessive use of alcoholic drinks. Alcohol is a poison. So is strychnine, so is arsenic, so is opium. It ranks with these agents; but of these agents, arsenic, strychnine, opium, and many others, there is this to be said, that in certain small doses they are useful in certain circumstances, and in certain very minute doses they can be habitually used, without any *obvious*—mark what I say—prejudicial effect; without any obvious and sensibly prejudicial effect upon health.”

“Health is that state of body in which all the functions of it go on without notice or observation, and in which existence is felt to be a pleasure, in which it is a kind of joy to see, to hear, to touch, to live. *That* is health. Now that is a state which cannot be

benefited by alcohol in any degree. Nay, it is a state which, in nine times out of ten, is injured by alcohol. It is a state which often bears alcohol without sensible injury, but I repeat to you, as the result of long continued and careful thought, it is not one which can in any sense be benefited by alcohol. It can bear it—sometimes without obvious injury, but be benefited by it—*never*. I go further than that. I do not pretend to speak to you as a total abstainer, but I hope all the rising generation will be total abstainers.”

“Now, as regards the influence upon *health*. I would sum it up in this: first, that perfectly good health will, in my opinion, always be injured even by small doses of alcohol—injured even in the sense of its perfection of loveliness. I call perfect health the loveliest thing in this world. Now alcohol, even in small doses, will take the bloom off, will injure the perfection of loveliness of health, both mental and moral.”

“I do not desire to make out a strong case, I desire to make out a *true* case. I am speaking solemnly and carefully in the presence of truth, and I tell you I am considerably within the mark when I say to you that going the round of my hospital wards to-day, *seven* out of every *ten* there *owed their ill-health to alcohol*. Now what does that mean? That out of every hundred patients which I have charge of at the London Hospital, seventy of them owe their ill-health to alcohol—to the abuse! I do not say these 70 per cent. were drunkards, but to the excessive use.”

“I am not saying, because I have no means of saying, in human life in society at large, what is the percentage of victims which alcohol seizes upon as its rightful prey. I do not know. I have no method of coming accurately to the conclusion, but I know this, that not only has a large percentage of such diseases as I have mentioned, but a great mass—certainly more than three-fourths of the disorders in what we call ‘fashionable life’—arise from the use of this very drug of which I am now speaking. Now, if you think of that, and think for one moment of

the fact I have told you, that in this London Hospital seven out of ten of those whom I have seen to-day, and seen for one reason, to present the statement to you to-night, lie there maimed for life by this agent; that a great mass, perhaps the greater mass of the disorders, as distinct from the diseases with which mankind is afflicted, arise from the abuse of this drug—surely, surely you will agree with me, that a terrible responsibility lies upon those who, forgetful of these plain and certain teachings which the commonest experience can yield, will stimulate people to keep themselves up with glasses of wine and glasses of beer.”

“And I ask—What are you to think of those who are born of drunkards, who come into this world, so to speak, with a curse not only upon them, but in them, the terrible desire for that which is to blast them, and to blast them speedily—a desire which no human power can save them from, and which God alone, in His wisdom and mercy, can protect them from? What an awful thought is this. Can there be any man here present who, if he is taking more than he ought to take, is indifferent to all this? How can he think without dread of this terrible fact—for fact it is, as surely as that two and two make four—that this desire is becoming part of his nature, and that he is handing it down, not for good, but for the most terrible evil that man can suffer, unto generations yet unborn? Can I say to you any words stronger than these of the terrible effects of the abuse of alcohol? It is when I myself think of all this that I am disposed, as I have said elsewhere, to rush to the opposite extreme, to give up my profession, to give up everything, and to go forth upon a Holy Crusade, preaching to all men—Beware of this enemy of the race.”

Medical science has, further, unequivocally ascertained that there are certain predisposing causes or conditions of inebriety inherent in the constitution, or supplied by external circumstances, which, though perhaps dormant and imperceptible, require only to be awa-

kened and excited into activity. Such, for instance, are heredity, peculiarities of temperament, ill-health, dissipation, bad companionship, anxiety and trouble, overwork and loss of nerve power, bodily fatigue, sedentary and irregular occupation, want of employment, unhealthy locality, atmospheric changes, and last, though perhaps not least, the pernicious drinking customs of society. Each of these would, I am sure, in more capable hands, provide ample matter for most interesting and profitable discussion, but I can only now just briefly mention them.

Inebriety, too, as our common experience will tell us, is no respecter of rank or station, or of sex or age, for rich and poor, man and woman, old and young, educated and uneducated, are all alike subject to its thralldom, through either of the above-mentioned predisposing causes, or by more immediate and direct contact with the drug which is the *irritimentum mali*.

Thus inebriety, besides being a horrible and soul-destroying sin when contracted and caused by persistent over-indulgence of the animal appetite, in defiance of both the natural and spiritual laws of the Creator, becomes also a disordered physical or mental state, and a disease to which our sad and suffering humanity is prone, the victims of which require both remedial treatment and kindly protection. This latter view of the matter is too often, I am sorry to say, overlooked, for it richly deserves the very earnest attention of all Christian people, and especially of our spiritual pastors and masters.

But whether inebriety be a vice or a disease, or both, it is not so much my purpose to-day to argue, as to recall attention to the fact that it exists to an enormous and appalling extent, and that little—shamefully little—is done towards either its cure as a disease, or its extirpation as a sinful evil. Numberless institutions are spread over the country, thank God, for the general treatment of disease, such as hospitals, infirmaries, and the like, whilst there are also admirable institutions for the treatment of diseases of a special character—*e.g.*, consumption, cancer,

fevers, diseases of women and children, and of bones and special organs. But for the treatment of the poor, diseased inebriate, there are about sixteen recognised Retreats or organised establishments only, as far as I have been able to gather, all the result of private enterprise, and in nearly all of which detention is voluntary, which experience shows is next door to useless if a permanent cure is wished for or expected.

Let me also ask you to note this significant fact, which is surely a terrible sign of the direction in which the stream of inebriety is now running, and fraught with so much disaster to the whole community—*viz.*, that out of these sixteen Inebriate Retreats, all but two (both licensed under the Habitual Drunkards Act) are for females alone. And I may add a remark I once heard made, that the applications for admission to these Retreats for females were always very far in advance of their possible accommodation. Thus, it may be truly said, to the everlasting reproach of this Christian country, that the only refuge open to the penitent dipsomaniac, or the habitual drunkard, who cannot pay for his detention in one of these few private homes, is the ward either of a workhouse, a gaol, or a lunatic asylum, and not there even until he has qualified himself for entrance and reception by becoming either an absolutely friendless pauper, a disgraced criminal, or a mindless lunatic!

Four Inebriate Retreats where detention is enforced by law, and those licensed under the Habitual Drunkards Acts of 1879—that well-meant, but most imperfect piece of legislative experiment—*viz.*, the Dalrymple Home, for males only, Rickmansworth, Herts.; High Shot House, for males only, Twickenham; Old Park Hall, for males and females, Walsall, Staffordshire; Colman Hill House, for females only, Halesowen, Worcester-shire. The terms vary from two guineas to five guineas a week.

In mentioning the names of these most useful and humane institutions it would be impossible, I think, not to say a special word in regard to the Dal-

rymple Home, not only on account of its success, which the Government Inspector has declared in his fourth report to be "very marked," but because our honoured President (Dr. Norman Kerr), Dr. B. W. Richardson, Dr. Alfred Carpenter, and other well-known medical men and Temperance reformers, are so closely identified with its interests and management.

A fuller and wider knowledge of the whole subject, from both a medical and social point of view, and a larger experience of the life histories of individual inebriates, has established the fact, that to be of any real or lasting service, such institutions must be licensed by Act of Parliament, so as to strengthen and uphold their governing authorities, as well as to prevent improper treatment of their inmates. Accordingly, after many years of anxious and persevering effort, "The Habitual Drunkards Act" became law in 1879; but it has not proved successful for many reasons. The particular points in which it needs amendment were very clearly stated by Dr. Norman Kerr, in the able paper which I had the great privilege of hearing him read at the Social Science Congress in Huddersfield, on December 8th, 1882. His conclusions in respect of the Act are briefly these:—1. That it ought to be made permanent, instead of expiring in 1889, after ten years of existence. 2. That it ought to be amended in the following directions:—(a) That the present and great hindrances to voluntary admission should be removed; (b) that the temptations to drinking surrounding the retreats should be diminished; (c) that magistrates should have the power to commit habitual drunkards to retreats; (d) that guardians should be empowered to detain habitual inebriates for ameliorative treatment. I take the liberty, here, of suggesting another important amendment—(e) that proper provision should be made by Government for the care of pauper inebriates, as in the case of pauper lunatics. "By some such amendments," the Doctor observes, "the Act, permanently prolonged, might be made an efficient and useful

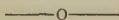
measure, as invaluable to the friends and the community at large as to the unfortunate victims whom the Act was designed to aid, in their restoration to health of body and strength of mind, to their families, to a life of activity and usefulness to their fellows, and to the common weal."

"The chief aim of religious organisations ought to be the conversion of sinners, but they are often too busily occupied in denouncing each other's heresies to attend to this primary duty. In like manner the fanaticism of teetotalers is wont to rouse such a feeling of antagonism amongst moderate drinkers that the reformation of the drunkard is frequently forgotten. . . . These reflections are induced by the melancholy fact that so little has been done for the restraint and cure of habitual drunkards. Every town and village in the country could furnish its quota of these wretched creatures, yet there are only six retreats under the Act for their reception, containing in all some forty inmates. This is but a poor, beggarly show, for a piece of legislation which involved an enormous amount of discussion. The truth is, our legislators are (as regards intemperance) on the wrong tack. Inebriate asylums will continue to be few in number and scantily filled, so long as it rests with the drunken people themselves to decide whether they shall enter these abodes. This decision should be placed in other hands. For various reasons relatives are loth to come forward to prosecute. Therefore the evidence of other persons should be taken, and upon satisfactory proof, before two or more magistrates, and a jury if deemed advisable, that a man (or woman) through excessive drinking was injuring his own health, neglecting to provide for those dependent on him, or making himself a nuisance to his fellow-lodgers or neighbours, he should be liable to be placed under restraint for a limited period, and kept to such work as he was able to do."

The necessity for such Retreats or Homes for the cure of Inebriety is not only absolute and urgent, but it seems to be a paramount duty, especially on

the part of a nation calling itself Christian. But the value of them is beyond all contradiction. There is, doubtless, still room for much improvement in their method and management, but their results are, on the whole, most satisfactory and encouraging. Doubt is often cast upon the permanency of the cure of inebriety; but there is surely the same uncertainty as to the permanent cure of all other diseases and evils. And yet I hear no objection to the attempts which are made on all sides, with very strong hopes of success, to reform the criminal, to restore the insane, to repair the damaged body, to bind up the

broken-hearted, and recover the fallen. Then why should such exception be taken to the permanency of the cure of the inebriate? But the results of medical and Christian experience show, beyond all question, that inebriety may be cured as effectually and reliably as any other of the many ills which flesh is heir to, hampered though its treatment is by many complications. At any rate, it has been said authoritatively that one out of three men who have been under anything like proper treatment in an inebriate asylum has been saved. A result for which, I think, we may well thank God and take courage!



THE EFFECT OF ALCOHOL UPON THE CIRCULATORY SYSTEM.*

By DAVID W. AITKEN, M.D., *Edinburgh.*

At the risk of being tedious and wearisome to you, I have determined to deal this afternoon with a somewhat technical subject, but which seems to me of such importance that I venture to ask for it your most serious attention. Drs. Richardson and Ridge have gained some glorious victories by their scientific investigations, and have carried the battle far beyond the enemy's frontier. I am bold enough to desire to storm the last stronghold, and if possible to make our foe, in a scientific conflict, hang out the flag of truce and capitulate without terms.

The experiments of the above-named gentlemen have had reference to the action of alcohol upon the senses, upon muscular action and control. The result has been to show, that the drug, among its earliest effects, produces a deterioration of these faculties. In a word, *loss of control* in the nervous system is an early manifestation of its presence in the living body. It is my intention to extend the demonstration by carrying the investigation into the region of our subject.

In almost every argument we are sure to be faced with two questions:

First. How do you account for the undoubted fact that alcohol increases the action of the heart, as is manifested by the more forcible and quicker pulse?

Second. How do you explain its invigorating influence in muscular exercise?

To the solution of these questions I have for some time been devoting my attention. Let me now give you the result. In considering the first question, let us for the moment assent to its truth, viz., that alcohol directly strengthens the heart. We have then these serious facts to face:

ALCOHOL AS A SPUR.

First. Alcohol cannot act otherwise than as a spur, for it is well-known that this liquid is almost, if not altogether, useless as a food. It cannot build up the tissues of the heart as a real restorative should do.

Second. As the heart's force depends upon the vigour of its muscular fibres you get, in health, as much work as it is naturally capable of. As you are aware, the work of the organ is enormous, as much in a day as would raise 150,000 lbs. one yard high. You

* Read at a Conference of the Scottish Temperance League, Dunfermline, February 21, 1887.

can in a moment comprehend that it is no light matter to increase the labours of this marvellously industrious individual without making adequate compensation. What would you think of the master who would urge on his servant with the lash and extra exertion, while at the same time refusing him extra food?

Third. You shorten the period of rest; the heart beats and then pauses. This short pause, $\frac{1}{2}$ to $\frac{1}{10}$ second, is all the opportunity for sleep and nourishment it gets. It must be manifest to all of you what a serious thing it is to curtail the little time for such essential requirements.

Now, as it will throw considerable light upon our subject, let us pursue this question of increased action somewhat farther. The salivary gland secretes saliva only under certain conditions. In the absence of these, the mouth is comparatively dry. Why is this? The gland is governed by the brain, and only secretes at its command. When food is taken into the mouth, a message of which we are not conscious goes up to the brain that saliva is wanted. The brain transforms that into another message. Physiologists called it excretory message to the gland, which then supplies the desired fluid. When the necessity has passed, the saliva is secreted no longer. Of course you will understand that there are *stimuli* other than food, such as movement of the jaws, which are pretty constantly in action; but the greatest flow of saliva occurs normally on taking food. Now suppose we divide the connection between the brain and the gland, what follows? One would be tempted to reply—"Why, no saliva would flow!" The very opposite is the fact. There occurs a most copious flow called a "paralytic secretion," which continues until the gland is exhausted. If in a young animal a certain nerve be divided in the neck, growth on that side is in excess as compared with the other.

In health the nervous system controls the supply of blood so that the flow is proportionate to the needs of the part supplied. If it is at rest the

vessels are kept small. If active the vessels dilate and permit a greater blood stream. When the nerve is divided you have a current monotonously constant in volume passing through the tissues without regard to their varied needs. If the stomach of a person recently dead be examined, it will be found to contain a considerable quantity of gastric juice, sufficient often to partially digest the stomach itself. As in the salivary gland, so in the gastric, the secretion only occurs at the command of the nervous system. At death the connection is severed and the glands run their life-history rapidly and perish. Lastly, you have all heard of death-bed repentances. I have seen a person an hour or so before death, and after a prolonged and prostrating illness, even though no pulse could be felt, eloquently proclaiming his joy, greatly to the satisfaction of the numerous relatives who surrounded him to hear his dying testimony. Alas! I am sorry to drag from them the oftentimes frail prop of hope upon which they repose. The explanation is that the higher functions of the brain, the reason, the will, are dead, and those parts which subserve the fancy, being set free from control, are having full play as in a dream.

These facts appear to me to have a double value.

First. They deal a death-blow to the argument from mere increased action, for the reason that it may be attended by serious and even tragic accompaniments.

Second. They furnish us with a clue to the action of alcohol upon the heart.

I shall now proceed to show that the increased action of the heart is due to loss of brain control. In fact, I most strenuously deny that alcohol is a stimulant to that organ.

STRUCTURE OF THE HEART.

First, I must say a few words about its structure. Its business is to drive on the blood into the arteries. It is composed of muscles, is in fact a muscle, and has in it the nervous apparatus necessary for causing it to work. It is an automaton. Under certain

precautions the heart will beat after removal from the body. If it were left to beat with all its force, it would, in all circumstances, continue to supply the same quantity of blood, whether the requirements were large or small. This would, in so highly-organised a machine as the living body, give rise to serious consequences; so to obviate these the heart is put under the control of the brain.

A nerve runs down from the brain to the heart, so that when need requires the latter can be slowed through the medium of this nerve; cut the nerve and the control is lost. I shall try to prove that alcohol does away with the brain control. I was led to the explanation of this theory by a case which I attended some time ago, and which made a deep impression upon me. The case was one of typhoid fever, which did well enough for a week or two. One night, however, when I called, I found my patient in a most alarming condition. He was convulsed with pain, extending from the seat of disease down the back of the leg. The pulse could be felt with difficulty. As no untrained person could undertake the vigorous treatment I deemed necessary, I resolved to stay all night and fight with death.

The knowledge of the seat of disease, coupled with the hint the pain gave me, led me to form the opinion that the convulsions and the state of the pulse had one cause — that the brain was being irritated, and was thus both acting upon the muscles and also upon the heart. This may be made clearer, if I explain what is termed a reflex action.

Some nerves carry messages to the brain. These messages are translated in various ways according to the part which receives them. This translation is carried away to the part to be acted upon. Here, from the nature of the mechanism, the message sent down in the case of the heart was a control one, while to the muscles it was one of motion.

THE ACTION OF ALCOHOL.

Well, I had been taught the benefit of alcohol in such a case, but how to

explain the *rationale* I was quite at sea. I commenced to ply him freely with it, studying after each dose the effect upon convulsions, pain, and pulse. After he had imbibed a considerable quantity he began to improve, and by morning he was fairly out of immediate danger. Here, to meet a manifest objection, there is no question of stimulation, as the dose to produce the result would have made any ordinary man dead drunk, and so the stage of stimulation, if there be any, must have been long past. My conviction is that I effected my purpose by so dulling the brain that it could no longer control the automatic nervous apparatus in the heart, which was thus left free to exert its full influence.

The position is not weakened by any attempt to argue that the heart's nervous structure would have been at the same time duller, as we know that in the deepest narcotism the heart beats quite freely.

Another similar experience, where also I had, night after night, only too many opportunities for observation, has tended to confirm the view I have stated. Since then, on looking up the literature of the subject, I was surprised to find that at least one observer claimed to have proved by actual experiment, the truth of my conclusion. Let me put it plainly. I maintain that alcohol, instead of acting directly upon the heart itself, cuts off by its narcotic influence the control of the brain, and thus the heart is left an untrammelled and irresponsible autocrat.

We shall now turn to the second argument. How shall we explain the effect of alcohol in muscular exercise? Its apparently invigorating and refreshing action is, as you know, usually attributed to its influence upon the heart. Another argument about "increased action," you notice. We are now, however, on the alert with regard to that, plausible as it is, and so even view it with suspicion at the outset. My attention was fully directed to this question by a contest, of which I was a witness, between an abstainer and a believer in alcohol. Some severe and prolonged work was undertaken. The teetotaler himself was not "in good

form," as he had just emerged from his study after a long period of close and sedentary work. From the appearance of the men I inwardly prophesied the result. After a short spell of exertion the moderate man showed signs of distress, and not only gave up, but took a dose of brandy. Strange to say, after he had enjoyed a rest he declared himself all right, and, recommencing his task, came in a very bad second. Notwithstanding this the praises of alcohol were loudly sung, and its powers were held to have been fully established in spite of the additional fact that the unbeliever had easily vanquished without its aid. While passing to the explanation, let me confess my belief that without the liquor he could not have accomplished his task. But you will soon see that this admission puts me in no dilemma.

MUSCULAR ACTION.

It will be necessary for me to say a few words about the circulating system. You have a heart, a brain, lungs, blood, tissues—in health all sound. The blood is driven from the heart along the arteries to the tissues, where it gives oxygen and nutriment, derived from the food, and receives the products of chemical changes in these tissues. The only important thing for us is the carbonic acid. The blood thus contaminated enters the veins, and is hence carried back to the heart, right side, which drives it to the lungs, in which it is purified, giving up carbonic acid and taking oxygen. It now enters the heart to recommence its circuit. But a word further as to the process of respiration. The chest capacity is increased by muscular action, and air rushes in to fill the space thus created. This muscular action is brought about by the brain, and occurs normally 15-20 per minute when the body is at rest. In exertion the chest movements are both more frequent and more pronounced, and the more violent the exertion the more rapid and deep the respirations, until complete breathlessness may be produced. If the work could be continued long enough the brain would become exhausted and death would ensue. This is what actually occurs in

suffocation. But the breathlessness so imperiously demands a cessation from labour that we cannot *voluntarily* prolong our efforts sufficiently to produce that catastrophe.

I have said the starting apparatus is in the brain, but this needs a stimulus. Now this stimulus is the carbonic acid in the blood. The blood goes to the brain. As soon as the blood becomes sufficiently charged with carbonic acid the brain is set to work to give rise to a respiratory movement, and the blood is purified. But in a short time the blood again becomes charged, and another movement takes place. You see that the rhythmical character of the breathing is thus explained. Notice another aspect of the case. The brain samples the blood for you, and in over-exertion the breathlessness indicates that you are over-working the brain, and also that you are poisoning the blood with waste products, which if you persist in neglecting its monitions, will manifest themselves in disease.

It is clear, then, you have a sentinel on the watch-tower of your citadel in whom you may place implicit trust, but to whose warnings you must pay diligent heed if you would be safe. But besides neglecting his voice, you may commit another act of folly. You may drug him to dulness, so that the enemy can pass before his very eyes beyond the drawbridge, and is putting the match to your magazine, while you placidly rest in your imaginary security, persuading yourself by the absence of his measured alertness that the enemy has clean retired.

Such, ladies and gentlemen, is the act of folly which, I believe, you commit when you take alcohol. It drugs the breathing "centre," so that while the blood is actually becoming excessively impure, it no longer excites the benumbed centre.

The truth is, the man who relies upon the help of alcohol during exertion is simply sowing to the wind—he will most assuredly reap the whirlwind. But you will demand proof, notwithstanding the reasonableness of the explanation I have given.

First. That muscular action can occur without any respiration is proved

by such a case as the following, which, by the way, put me first upon the above track. I have seen a man in whom no pulse could anywhere be felt, and who was moribund, in whom therefore there could be no question of fresh blood-supply to the muscles. I have seen, I say, such a man on being touched rise up in bed, turn from side to side, in fact display considerable muscular energy. The products of the latter were simply accumulating, the brain showing no signs of distress, for the evident reason that the blood was not being carried to it.

Second. It has been proved that when an animal suffers from continuous convulsions, more carbonic acid is given out than can be accounted for by the oxygen taken in. Both these facts show that if you can only eliminate the brain factor you can have in a living body active muscular action without a sufficient, or even any respiration.

Third. It has been shown, by very competent observers, whose testimony, for various reasons, I am inclined to accept, that under the influence of alcohol the amount of carbonic acid excreted from the lungs is, under all circumstances, diminished. Now, this means one of two things. First, that the mere *excretion* of oxygen is less. Second, that the amount *produced* in the tissues is less. Now, the latter cannot be accepted as explaining the diminution during exertion, because muscular contraction cannot occur without the production of carbonic acid, which at once enters the blood stream. We are, therefore, compelled to adopt the first alternative, which of course, favours my theory.

Fourth. It is well-known how prone habitual users of alcohol are to accumulation of fat and to gouty conditions, proving most manifestly that a storing of wasted products *is* going on, and thus showing in the clearest manner that my explanation is scientific and true.

What then comes of the boasted efficacy of alcohol? Is it a true restorative, or does it, by its narcotic action, step by step cut off the nobler and more special functions of animal

life, and so more and more reduce it to vegetable existence? Further, does it allow poisons to accumulate undetected in the system? I think I have your verdict.

In conclusion, ladies and gentlemen, there is an old book often left on our shelves as a dust collector. It does not abound in scientific technicalities. The "Atomic Theory" is not its theme. It is even said to be weak on the "monkey" question. But it contains the utterances of those who have dwelt on the heights where are the beginnings of the River of Life. May I venture to express a hope that I have this afternoon, in some small measure, verified the wisdom of its declaration — "Wine is a mocker, strong drink is raging, and whosoever is deceived thereby is not wise."

In the discussion that followed the reading of the paper,

Mr. JOHN STEVENSON asked if Dr. Aitken would give some little further explanation of the case of typhoid fever in which he administered alcohol.

Dr. AITKEN said it would be understood clearly that such a case as that to which he referred was an extreme and exceptional case, in which the patient's life was in great danger, and in which the medical attendant had to adopt a remedy which might be dangerous, but which might possibly save the life of the patient. If he had such a case again he would adopt the same treatment. There were some conditions of human life where the highest brain functions could not live. The more you reduce the action of the brain, the better chances you give the patient of restoration in such a case. He was willing to admit that the administration of alcohol in such a case had serious after consequences, but where they had such a terrible case to deal with it was a question of life or nothing.

Mr. BLACKWOOD said: I feel a little disappointed at the remarks of Dr. Aitken in connection with the administration of alcohol in cases of typhoid fever. Are we to go away with the belief that it is right in cases of typhoid fever to administer alcohol

as a remedy? I have two cases in my own eye. In the one case brandy was ordered and not given, and in the other it was given; and the one that did not get the brandy recovered, and the other died. I would like a little more explanation from Dr. Aitken on that point.

Dr. AITKEN: I understand your difficulty. Perhaps I can best explain it by saying at once that in nearly every case it is possible to treat disease without alcohol. And I can say as a fact that it is only in such a case as that which I have noticed that I would use it. Of course, you have not the heavy responsibility of standing over a patient that I had, and you cannot feel the full responsibility and difficulty of a medical man in such a case. Look at the case. Here is an instance of the heart being enfeebled by fever and poisoned. Now you have the control of the brain existing, because you know that in starvation, or in any reducing process, the brain is almost intact at death. A man can think clearly though much reduced in body and at the point of death. The last organ to be affected in cases of starvation is the brain. The controlling

presence of the brain, therefore, on the heart in such a case as I have noticed is a very dangerous thing. There are certain functions in the body which merely subserve the organic life, and have nothing to do with the high developments of the human being. Very well, when these higher functions cannot be in the disease performed, the best thing is to abolish them entirely for the time. Now, your argument against the use of alcohol in any extreme case of disease would cut against the use of chloroform in disease. Under an operation, without chloroform, the nervous system gets a shock, and the deaths from shocks in cases of operations are much fewer since the administration of chloroform came into practice in such cases. In order to lessen the danger to life by lessening the shock to the nervous system by the operation, you cut off the controlling influence and leave the patient a mere vegetable life for the time being. In the same way in the case I noticed, you dull the brain by the narcotic, and so relieve the heart for a time and give the patient thus a chance of restoration.

ONE YEAR'S RECORD OF A DOCTOR'S LIFE.

BY A MEDALLIST IN SURGERY.

CARDINAL Manning has been blamed for using strong language against drink. It has been said that he exaggerated, that he closed his eyes to other and worse evils—that, in short, intemperance was not so fearful a plague-spot as he represented. It is not my good fortune to be a clergyman, and, therefore, I see intemperance in a different form; but I maintain that no speaker or preacher has gone too far—nay, few go far enough. Of all the cruel vices, the foul sins that ravage the land, intemperance stands first and foremost, the fruitful parent of a loathsome progeny. There is no escaping that awful truth. A medical friend came to me one day. "What," he said, "do these persons

know of drink in its worst forms? Let them get the doctors to speak out, and then the truth, as only the doctors could give it, would stand forth." But the doctor's tongue is tied. Delicacy, his own interests, loyalty to his patients, put a seal on his lips, and he talks much as other men do. Now, to-day I want to lift the veil a little, and just relate without reserve a few of the worst cases that have come before me in less than a year. Let not your readers shrink, but go right through.

One evening, but not within the year, I received a note from a lady begging me to call on her at once. She lived in a large house, was in a good position; her husband was the

cousin of a baronet. I knew that lady and that gentleman well; he was a fine, pleasant, and agreeable man, open-hearted, open-handed. What had she to tell me? That, though it was kept perfectly secret, he drank; and that when half tipsy his foulest passions were inflamed—no servant was safe from his polluting touch; and subsequently I heard that there had been some painful affairs connected with them. How many of our clergy shudder when they think of the moral failures of the land, and yet how few connect drink and impurity. Wine seems to inflame the appetites, to make them *the masters*. Thousands of young men trace a life of profligacy, of criminal self-indulgence, to the free use of stimulants. For the sake of the young men, of the young women of the land, away with the drink! But she had a far more awful tale to tell. She had come into the drawing-room one afternoon and found him committing an assault on her own daughter by a former husband. My advice was needed. As to the truth of the charge there could be no doubt. We kept the poor girl secluded from the world. Not even the very servants suspected what had happened, and as for the clergyman of the parish he thought the house charming and its family most exemplary. I attended that girl in her confinement, going in quietly by a side door. The baby was placed out to nurse, where, of course, it died. The girl's brother, filled with horror at the foul occurrence, left England for Canada, where, being delicate, he soon died. Her only sister faded away, and now the poor lady, who never held up her head again, has died, sitting by her own bedside, of a broken heart, with not a soul to help or cheer her. The gentleman has aged rapidly, his happy home is broken up, he has gone down the ladder with a bound, and *now* I am asked to help him to get a situation as a potman, forsooth. I am relating nothing but the solemn truth. Some of her own brothers and sisters do not know the cause of the deadly blight that has withered up four lives, and which has blasted and ruined the

peace of that once smiling home. Of course the newspapers have never noticed the catastrophe, and temperance orators have never had these awful details to publish to the world; not six living people know the truth of that tragedy.

Again, a note was put in my hand. I went to the house, an apparently flourishing tradesman's with whom I deal. The little child was evidently dying, and the father was drinking. The father—a quiet, clean, pleasant, young man—was drinking himself into *delirium tremens* while his own child was leaving this world for the next. The wife was half wild with grief that at such a time her own husband should have no thought for anything but drink. Well, the baby died; the mother looks much aged and worn; the father has just had to give up his neglected business, and to start again as a humble dependent on a paltry pittance, and still he drinks. Did that get widely known? Of course not. True, I spoke to the clergyman, but met with no response, except a few cold hints to attend to my own duties, and allow other people to do the same, as far as their own were concerned. Perhaps the clergyman thinks me a teetotal maniac, or a foolish gossip.

Again, there called on me a most respectable young woman, the wife of a retired policeman. I found her very ill, and I may add that she soon went from bad to worse, and died two months later. Her husband was a noble-looking man of sixty-seven, with a good pension and in full work. She was his third wife, and much his junior; but she died through sorrow at his intemperance. Night after night, and all through the Sunday, he drank. He is no rough, coarse fellow; but clean, upright, pleasant, intelligent, and in constitution unbroken. Again and again he promised his dying wife, with tears in his eyes, to sign the pledge; again and again he broke his promise. One evening I called, and, finding her in great pain, wrote a prescription for her. He set off to get it made up, but, alas! did

not get beyond the public-house which he did not leave till turned out drunk. He drank the day of her release; he drank while she lay dead in the house; and he was drunk the day of the funeral; and yet, though many know that he is "fond of a glass," how few even suspect that he is a drunkard, the practical murderer of his wife.

Again, I was asked to see a poor young woman late at night. For nine months I attended her. Her case perplexed me sorely. She was so sweet, trusting, gentle, resigned; but in spite of all I did, in spite of paying out of my slender purse quite a long bill at the chemist's for medicines, she got steadily worse. Her brother, the previous August, had died of alcoholic phthisis, but I did not suspect her, though before her marriage she admitted that she had led a dissolute life in one of our great towns. At last I felt that her only chance of recovery lay in sending her far away to a lowly convalescent home. Alas! how to get the money, for her husband only earned 16s. a week. I could not help—indeed, when I looked at the last report of that Home and saw my name down for seventeen guinea tickets for the previous year it quite frightened me. However precious human life may be, I could not raise or give the money needed, and so I had to begin collecting—a weary task, one peculiarly distasteful to me; letters here, there, and everywhere; long delays, piteous appeals. At last I got her off. She looked so cheerful, so hopeful, so grateful, that, though the change was almost too late, I, too, hoped. Judge, then, of my boiling anger, of my overwhelming humiliation, when two days later brought me a sharp letter from the lady superintendent, and then one from the doctor, both old friends of mine. "What," they thundered, "do you mean by sending a dying drunkard? Do you know that that woman actually brought port wine here, that she will only take brandy, and that, she says, you told her she could take them?" I had a bad mark: more and more violent grew the letters from my friends; perhaps it was their

friendship that made them so violent, but at any rate every day I looked for and got an angry epistle—sometimes two—in which my stupidity in not discovering her condition and habits, my incompetence in not controlling her, &c., &c., were severely commented upon. When I add that in the home she did nothing but drink, and that to pacify her the authorities at last let her have just what she asked for, perhaps my own incompetence in not curbing her was not so great. At last she returned home to die. The clergyman pitied her, thought her so sweet, so childlike in her faith; and another good Christian friend, who often visited her in her last hours, feels sure that she is gone into the presence of the God of Truth. Well, we all need pity and forgiveness; even the righteous will find their need of mercy, so I will not express doubts. God grant that when our hour of trial comes we may find peace and acceptance!

But, pray observe, that though I paid that poor young creature perhaps 200 visits, gratuitously of course, for such as she don't pay the overworked and careworn doctor—and I visit the poorest as I should the rich, had I any rich patients; but rich patients go to alcohol-prescribing doctors—I never suspected that she drank, and had she not left home I should not have known that her perplexing case owed its fatal termination to drink. Some readers will ask how it was I never found her out. I can only say that I never suspected her, though as soon as I had learnt something of her drinking habits all the mystery vanished. The fearful indigestion, the constant vomiting, the flushing face, the rapid, feeble pulse, the increasing exhaustion, all were clear. And where did the money come from for the drink? Why, *all her husband's earnings* were swallowed up, yet he said not a word, made no sign.

But again. A sweet gentle woman I knew well was ill; it soon came out that her life depended on one of the most terrible operations in surgery being performed, a case of abdominal section. There was no time to lose.

But though the husband and the sons earned 58s. a week, there was not even money for her fare. Once more the sickening collecting of a sovereign began, and I got her off, placed her under the care of the first surgeon in that department in England, and she passed through her operation safely; and I have now twelve and sixpence to pay to the hospital on her behalf, while her husband could squander three or four pounds away in a few days during her absence from home, in a drunken, wasteful holiday and debauch. As for paying me, well, that is never thought of, and never will be.

Still two more cases, and I could give a score. A poor neighbour, being confined to the house, heard of the preceding case. She sent for me. She had not got out of her cottage for fourteen years. Could I get her into the same hospital? I found that her husband was a brewer's labourer, and that she drank freely. I pleaded with her—warned her—and pointed out what could be done for her. Her son came a long journey to see me. He was a clever mechanic, a total abstainer. "If," he said, "she could be got to his house, he would watch over her." Well, I made all the arrangements, got my eminent friend, reluctantly—very reluctantly—to promise to take her into the hospital to perform the operation, and to do all in his power; and as this time there was no collecting of money or begging for tickets, I felt less disinclined than ordinary. Her son took her to his home, and in due time she was taken to the hospital. She went in one day, and had the cruelty to me, the folly to herself, and the unkindness to her son, to come out the next day, because she could not live without the drink. "I have been confined to the house fourteen years," she said, "and I can keep to it another fourteen, but I cannot do without my beer for six weeks; one day has been more than I could stand."

One more, the last I shall give. A feeble woman, a drunken profligate husband, the latter once well off, but ruined by drink, vice, and disease;

the two younger children dangerously ill; the poor woman needed to pass through an immediate and cruel operation. Once more the painful collecting of money; the writing here, there, and everywhere; the calling on friends of mine. The husband's friends refused to send even one penny; they had already, they said, done all and more than they could afford. My friends objected that I seemed to practise my profession solely for the good of my patients, and not for our joint benefit. "You seem to have," they said, "the care of all the poverty-stricken, degraded, and miserable sufferers for a dozen miles round. You had better build a hospital at your own expense, and maintain it for the reception of all the afflicted poor, you will soon have it full." How true that last cut! As long as vice, intemperance, and self-indulgence are rife, no fear that our hospitals will have to be closed for want of inmates; they will always be full of the direct and indirect victims of drink. Well, I got off the poor sufferer just in time to save her life by an operation that in her miserable sick house would have been fatal. Two people at the last moment, as the result of much importunity on my part, advanced the requisite funds, and for the present my appeals to her husband for the wife's sake are keeping the man steady and industrious.

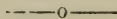
I see another case—a patient, upright mechanic, a total abstainer, left with three children, two of them little angels in their guileless simplicity and purity, and the wife, after a lazy career of vice, extravagance, and intemperance, just run away with another man; and the husband is sold up, and for three years will have to stint to pay off the shower of bills descending on him—debts of which he knew nothing, poor fellow!

I close here, in a double sense, a brief and imperfect record of less than one year's experience of a medical man holding now no public appointment—clubs, or parish, or hospital—a man whom many poor sufferers consult and appeal to, but a man who not thrown, as once he was, in the

way of the terrible crowds besieging our great hospitals. In another sense I close the record. In future I shall resolutely steel my heart against appeals for such help as I have heretofore never had to refuse. I cannot afford henceforth to buy tickets, defray chemists' bills, pay railway fare. I shall pick out my cases more carefully, for I must not forget that charity begins at home, and I have overstrained my own resources. Only the command of a fund of £40 or £50 a year would make me go on as I have done. Only those who have had to get them together know what is meant by getting a constant stream of hospi-

tal and sanatorium tickets, only those who have had to do it know how quickly the charity of our wealthy friends and relatives is exhausted.

One word in conclusion: the first horrid case may seem exceptional. Would that it were! But speaking to a *young* hospital surgeon, he said he had known twenty cases of equal horror; and a great surgeon I was talking to said, sadly, "Believe me, my old friend, your experience is nothing unusual. I can give details that would make your cases seem quite commonplace." Then he related a case; but I must draw a thick veil—and this is Christian England.



THE REMARKABLE DECREASE OF INTOXICANTS IN WORKHOUSES.

By NORMAN KERR, M.D., F.L.S., *President, Society for the Study and Cure of Inebriety.*

No fact in our national progress towards sobriety is more astonishing than the marked decrease which during the past fifteen years has taken place in the consumption of intoxicating liquors in our workhouses. Yet the significance of this greatly lessened consumption of alcoholics seems to have been almost entirely unrecognised.

From Lord Derwent's Parliamentary return for the year ending Michaelmas, 1871, we learn that the total cost for intoxicants used in workhouses in England and Wales was £82,554.

From Mr. Whitworth's Parliamentary return for the year ending 31st December, 1881, we find that the total expenditure amounted to £60,303.

The recent return, on the motion of Mr. Watson, informs us that the corresponding total sum for the year ending 31st December, 1885, was £44,820. There has thus been a reduction of more than 25 per cent. during the last four years, and of more

than 45 per cent. during the last fifteen years.

Nor has this startling diminution of the charge for alcoholics been owing to a proportionate decrease in the actual number of inmates. From the returns in question it is impossible to elucidate the truth as to the ratio of inmates between 1871 and 1885, the number of individuals in the former return being of paupers on workhouse and district medical officers' books in the last week of the twelve months, while in the latter return is embodied the daily average number of inmates in workhouses during the year.

We can, however, ascertain the difference between the average number of individuals in 1881 and 1885, because both of these returns give the daily average of inmates.

In 1881 the total daily average of pauper inmates was 170,526, and in 1885 it was 175,987. Thus, there was over 25 per cent. less liquor consumed by 3 per cent. more individuals; in other words, 5,461 more persons cost for alcoholic drink £15,483 less.

The diminution has been pretty well over the kingdom. In the metropolis

* Read at a meeting of the British Medical Temperance Association, on 18th February, 1887.

it is well marked. With an increased daily average number of 6,974 in-door paupers, there has been a metropolitan reduction in alcoholic expenditure of £7,511, or almost 32 per cent. in the past four years.

In Wandsworth, with a daily average of 382 inmates, Lambeth, with 1,233, and Bethnal Green, no intoxicants at all were used. In Marylebone, with an average of 1,633, only £6 8s. 9d. was spent during the twelve months. In St. Leonard's, Shoreditch, with 743, no strong drink, except at Christmas, was consumed. In Whitechapel, with 319, the total charge for intoxicants was £1 1s. 4d., also for beer at Christmas. At Greenwich, the whole annual expenditure was £10 12s. 8d. for an average of 1,077 inmates.

Among the provincial workhouses, where there was absolutely no expense for strong drinks, were Penzance, 110 inmates; Falmouth, 120; Newmarket, 182; Fylde, 134; Wharfedale, 86; Kirby Moorside, 20; Weardale, 75; Durham, 136; Bellingham, 14; and Rothbury, 13. In Wales, no inebriating liquor was consumed at Swansea, 378; Wrexham, 300; Neath, 94; and Pontardawe, 33.

In many workhouses in the provinces, where liquor was used, the cost was so trifling as to be hardly appreciable. This small expenditure, too, was in several instances for malt liquor on Christmas-day. For example, at Reading, with an average of 280 in-door poor, except for this annual festive allowance, the whole charge for alcoholic drink during the twelve months was under one shilling. At Shaftesbury, the only intoxicant consumption was on Christmas, which reat (?) cost 18s. for the seventy-three inmates.

Bideford, with an average of 96 inmates, spent 11s. 4d., Camelford, with 32, spent 15s. 4d.; Launceston, with 69, spent 4s. 5d.; East Stonehouse, with 94, and Helston, with 140, spent each exactly, 3s. 6d.; Liskeard, with 148, spent the unique sum of 6d.

If we turn from the south to the north-west of England, almost as striking a decrease confronts us. For

the average of 200 inmates at Scarborough, only £1 5s. 6d. was disbursed. At Malton, with 80 persons, besides 10s. for the Christmas malt liquor, the whole outlay amounted to no more than 5d.! In the county of Durham, an average of 128 inmates at Teesdale, cost only 1s. 4d.

In the provinces the reduction has somewhat varied in the different divisions into which the workhouses have been grouped in the recent return. In the south-eastern division the decrease in the four years has been at the rate of 16 per cent.; in the South Midland, over 33 per cent.; in the Eastern, 27½ per cent.; in the South-western, 19 per cent.; in the West Midland, 20 per cent.; in the North Midland, nearly 14 per cent.; in the North-Western, over 22 per cent.; in the Yorkshire, 25 per cent.; in the North-east, 34 per cent.

A novel feature is the return of unfermented wine for Sacramental purposes, in one metropolitan workhouse. It is within my personal knowledge that Frank Wright, Mundy & Co.'s unintoxicating wine has also been prescribed to the sick poor as an adjunct to medical treatment. Their (unfermented) port with bark is a valuable and reliable tonic in convalescence from fever and other wasting diseases, as well as a potent remedy in neuralgia.

In the infirmaries in the metropolis there has also been a very great reduction in the quality of alcoholic drinks prescribed for the sick.

In the St. Marylebone combined workhouse and infirmary in 1880-1, £1,633 was spent for an average of 2,046 inmates. In 1885 there was £6 8s. 9d. for the Christmas malt liquor at the workhouse, with an average of 1,633, and £340 for the infirmary, with an average of 617 patients.

At the Workhouses of St. George's in the West, in Fulham Road and Buckingham Palace Road, in 1869, with a daily average of 570 persons, the charge was £1,493. In 1881, with a daily average of 1,595 the charge was £364. In 1885, with an average of 1,317, the charge was £8 2s. 5d.

In the Fulham Road Infirmary of the same Union the total cost during 1885, for drink as a medicine for a daily average of 503 patients under treatment, was £4 os. 10d.

In Ireland, only two Workhouses, Newry and Stranorlar, show no alcoholic expenditure. In 1880 (Mr. Whitworth's returns), £11,845 was expended, and in 1885, £8,800, a decrease of nearly 26 per cent.; of this latter sum, £4,146 16s. 2d. was for spirits, £2,387 os. 8d. for wine, and £2,266 9s. 2d. for malt liquors. The total daily average of indoor paupers was 46,159.

In Bawnboy, an average of 78 inmates, cost a total of 5s., at Ballymena, 337 cost £1 13s., at Cookstown, 133 cost £1 3s. 4d., at Monaghan, 166 cost 18s. 1d.

In Ireland the contrast between two adjacent Workhouses is suggestive: in the South Dublin Union with 2,978 inmates on a daily average, the total cost was £2,001, while in the North Dublin Union it was £754 for 2,576; the former showing nearly three times as much for 402 more individuals.

In Scotland, 1885, the Poorhouses with no expenditure for intoxicants, were North Leith, with sixty inmates; Lorn Combination, with seventy-one; and Long Island Combination, with one.

The total cost was £837, of which £523 was for spirits, £249 for wine, and £65 for malt liquors; the daily average was 10,039 inmates.

A comparison between the three countries may be instructive. In England and Wales, more than half the total expenditure is for malt liquors. In Ireland this is only one-fourth of the whole. In Scotland the proportion is but one-thirteenth.

Wine stands for between one-eighth and one-ninth of the total in England and Wales, between a third and a fourth in Ireland, and in Scotland. Fully one-third in England and Wales went for spirits, not much less than one-half in Ireland, and considerably more than one-half in Scotland.

In England and Wales the total cost for all liquors was £44,721 with a daily average number of 175,987 in-

mates, or at about 5s. 0 $\frac{1}{2}$ d. per head. In Ireland the total was £8,800 for an average of 46,159, or 3s. 9 $\frac{1}{2}$ d. per head. In Scotland the total was £837 for 10,039 or 1s. 8d. per head.

It has been strongly argued that cold climates call for a more generous supply of intoxicating drinks than warm climates, but the reverse is the fact with regard to Workhouse narcotic beverages. The ratio of alcoholic consumption is fully three times as great in milder and more southern England as in the cooler kingdom of Scotland.

There are still more striking differences between the expenditure per sick pauper in different unions in each county and in each division, evidence of a lack of uniformity in the medical administration of intoxicating remedies. What can be more anomalous than no liquor at all for 1,233 at Lambeth, and £687 for 1,867 at St. Pancras?

While the memory of papers which I was asked to read to the Metropolitan Poor Law Guardians' Conference in 1877, to the British Medical and Social Science Associations, is fraught with pleasure, there can be little doubt that the Resolution which the Poor-Law Medical Officers' Association did me the honour to accept at Liverpool four years ago, has exerted a powerful influence in the Medical Service of the Local Government Board. That Resolution was as follows:—"That, in view of the very large proportion of pauperism produced by intemperance, the disturbance and impairment of discipline where intoxicants are in use, this meeting notes with pleasure the greatly diminished consumption of intoxicating drinks in Workhouses, and strongly urges on all Poor-Law Medical Officers the propriety of prescribing as little intoxicating liquor as may be found compatible with the safety of the sick. That this meeting also is of opinion that no pauper should receive payment in intoxicating drink for work done, and that all Parochial officials should have the option of a money equivalent in lieu of an allowance of beer or other intoxicating beverage."

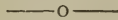
Gratifying as has been the unmistakeable decrease in the amount of inebriating drinks consumed by the in-door poor throughout the United Kingdom during the past fifteen years, there is ample room for a still greater diminution. For the extraordinary advance towards a discriminate and careful therapeutic administration of alcoholic remedial agents, the Medical profession merit commendation; and I am convinced that the increasing study of the properties of alcohol by my colleagues will eventuate in a yet more decided lessening of the Poor-Law liquor bill.

Let it never be forgotten that on the Medical Officer alone lies the responsibility of the medical prescription of alcoholics, a duty of extreme delicacy and importance which can be shared by no one else; and let him wield this power with deliberation, discretion, and the most scrupulous exactness in the ordering of accurately defined doses for the occasion only.

Let the Guardians set their faces

resolutely against the illegal practice of paying paupers for work done in beer or any other intoxicating liquid; and let them encourage the habit of abstinence in their officials by granting every member of their staff either a money or other equivalent for the liquor allowance.

Though it is true that no facts have been recorded which can justify the belief that the mortality of the sick poor has been lessened by the cessation of alcoholic medication, it is not seriously disputed that a comparatively rare and limited employment of intoxicating drinks in therapeutics is perfectly safe. And, as the presence of these narcotics is always a cause of disturbance and mischief among a community of paupers (besides being the cause which has driven the majority into the "House"), the smaller the consumption of such powerful and perilous therapeutic adjuvants, the greater will be the peace, the comfort, and the happiness of every patient, physician, and Poor-Law official.



ALCOHOLIC MEDICAL PRESCRIPTIONS.

A CASE decided at the Brompton County Court has led to much discussion on the value of alcoholic liquors as medicine. The defendants, representing the Benjamin Hatfield Phoenix Lodge, refused to pay £8, the amount of a death claim, upon the ground that the deceased, who was a member for nineteen years, had placed himself out of benefit by taking port wine under medical advice. It was argued on behalf of defendants that the deceased knew he was breaking the rules, and when the lodge decided that they could not make an exception in his favour, he recognised the decision by accepting his returned subscription. The judge, therefore, found for the defendants on the ground that the lodge was a private society, and that the deceased was a party to the rules, which had not been exceeded. The Benjamin Hatfield Lodge was not associated, as its title would im-

ply, with the Original Grand Order of the Sons of the Phoenix, and was, therefore, a strictly private society; and we are assured that neither the "Original" nor the "United" Order prohibits the use of alcohol as a medicine when it is prescribed by a medical man. The rule adopted by the "Sons of Temperance" is exceedingly definite; requiring members to refrain from taking intoxicating drinks as a medicine, even when prescribed by a medical practitioner, "unless the same be forwarded by him to the brother in a phial and labelled as other medicine, stating how much to be taken at each dose."

The *Times* very properly points out that this is not a question of "the virtues of total abstinence as commonly understood, and as practised by honest believers," and fairly recognises the difficulty of dealing with large bodies of men under an elastic

or indefinite rule; but other papers have not hesitated to use such words as "absurd," "fanaticism," and "idiocy" in regard to the course adopted by the Benjamin Hatfield Lodge. The discussion, however, will do good if the public bear in mind that the action of this particular lodge is not sanctioned or followed by the great bulk of temperance benefit societies, and if it leads medical practitioners to become increasingly careful in prescribing alcohol as a medicine. We readily admit that Dr. Gaven does not appear, from his letter to the *Times*, to be a very strenuous upholder of alcoholic prescriptions, although, in certain grave affections, he would consider "the non-administration of a regulated amount of alcoholic stimulant, even to total abstinents, in certain cases, a most serious omission;" but he frankly states that the disease of his unfortunate patient was incurable, and we may therefore infer that the "port wine" was not regarded as essentially important. Dr. Gaven, however, must be aware that every one of the "grave affections" to which he alludes has been successfully treated without alcohol, and that the medical practitioners who have had most experience in non-alcoholic treatment are the most ready to express satisfaction with its results. But we do not presume to condemn those who conscientiously believe in the value of alcohol when carefully prescribed as a medicine. All that we can ask of the profession is that, in the language of the celebrated Medical Declaration of 1871, they will not prescribe alcohol "without a sense of grave responsibility," and "with as much care as any powerful drug;" and further, "that the directions for its use should be so framed as not to be interpreted as a sanction for excess, or necessarily for the continuance of its use when the occasion is past"—a very important consideration when it is borne in mind that many continue drinking for years upon the faith of a single indefinite prescription.—*Temperance Record*, January 13.

(From the *Times*.)

The question is not of the virtues of

total abstinence as commonly understood, and as practised by honest believers. A friendly society has a right to start itself on such a basis, and to expel all who cease to be abstainers through weakness of will, change of doctrine, or fraud and deceitfulness. Its calculations of the benefits the members may enjoy are framed with reference to the maintenance of the voluntary habit of abstinence. It is unreasonable, on the other hand, to punish an involuntary breach of the system as if it were voluntary. The absurdity of the procedure would be manifest were a member to faint, and while only partially conscious to be revived by a glass of brandy. It would be equally manifest were a Son of the Phoenix to imbibe ignorantly alcohol in his ginger beer, or, as the medical witness at Brompton suggested, in tincture of opium. From examples of this sort to the present instance is but a stage, with a difference more of degree than of principle. A patient who in perfect sincerity, and distinctly in the course of medical treatment, drinks alcohol, though he knows it to be alcohol, is really as involuntary a transgressor of the rule as the subjects of the other imagined instances. Cases might be put in which medical directions would be no sufficient excuse, notwithstanding the veracity of the patient. A man who beginning as a total abstainer saw cause, like the Bishop of Manchester, to resort to a moderate regular use of alcohol, might fairly be required to withdraw from the family circle of the numerously named Phoenix. A temporary use under medical instructions is something radically diverse. We should not be surprised if the higher Courts found a way to determine that a drinker of alcohol under positive medical advice, for the cure of a specific ailment, continued to be a total abstainer under the rules of the lodge. At any rate, we are sure that the lodge would be conforming to the plain dictates of common sense if it adopted an equivalent construction without further compulsion. A majority of the members might act thus if they were left to themselves.

Few of them could be so foolish as to prefer to risk a loss of all the advantages for which they have for years been paying, on account of their compliance with medical sagacity. But the few, and not the majority, generally rule in such communities. Doubtless there are Sons of the Phoenix who would not be afraid to pursue their rule against alcohol to its most paradoxical consequences. They would like to banish an associate, or seat him for a month on the stool of repentance, for an inadvertent enjoyment of brandied sweet sauce with a Christmas pudding. Fanatics gradually assert predominance; and any total abstinence society is capable, if wholly untrammelled, of going to amazing extremes. We do not say that the resolution of the Benjamin Hatfield Lodge against the rights of Mr. J. J. Gregory can be so described. We believe that the same temper could readily be developed into a habit which might be. Hitherto there has been the safeguard of a possible intervention of the law against outrageous coercion. The decision of the Brompton County Court, though it does not increase, has not diminished the security.

(To the Editor of the *Times*.)

SIR,—As, from the report in the *Times* of yesterday of the proceedings in the Brompton County Court, on the 6th inst., of “Joseph Gregory against the Benjamin Hatfield Lodge of Total Abstinent Sons of the Phoenix,” some erroneous impressions might be formed of the circumstances of the case, I would feel obliged if you would kindly insert the following facts in your next issue.

In the earlier part of my professional attendance on the son of the plaintiff he was suffering from dysenteric symptoms and great debility and exhaustion, amounting at times to faintness. It was necessary to administer a stimulant to him to counteract the depression from which he was suffering, and as his nourishment in the shape of beef tea, &c. (to use a vulgar expression), “ran through” him every time it was taken, I ordered

him port wine in sufficient, but very moderate, quantity, knowing him for many years and that he was a teetotaler. He took the wine with benefit, and it was discontinued after a time. Subsequently symptoms of cancer of the bowel became manifest, which I notified to his family, and with this disease, later on, I sent him to hospital, with the view of having the operation of colotomy performed, as the surroundings of his home rendered it inadvisable that he should be operated on there. At the hospital it was also considered that an alcoholic stimulant should be given to the patient, and he was ordered brandy, which he took daily while an inmate of the institution. He left the hospital at his own request, and died on the second day after his return home. The form of cancer to which he succumbed was epithelioma, seated very high up the bowel, and I need hardly say that the disease was incurable.

The point, however, at issue was whether the administration of alcohol in any shape or form, even by medical advice, precluded a member from the benefits of this society, and the case was decided by the judge in favour of the defendants, on a legal point, the deceased having taken back his subscription.

As to the administration of alcohol as a medicine to teetotalers, I am sure that numbers of teetotalers take it in ordinary medicines—say for coughs, &c., in the form of tinctures, which are for the most part made with proof spirit—and still are not excluded from the benefits of their societies. Then there are grave affections, such as typhoid, pneumonia, certain forms of fever, &c., in which I should consider the non-administration of a regulated amount of alcoholic stimulant, even to total abstainers, in certain cases, a most serious omission.

I may add that I was obliged to leave the court before the latter portion of the proceedings had concluded.

Hoping I have not taken up too much of your valuable space.

Believe me, Sir, yours truly,

J. A. GAVEN,
L.R.C.P.E., L.R.C.S.I.

AN UNNAMED CAUSE OF LOW FEES.

By A. W. WALLACE, M.D.

It is somewhat remarkable that amid all the causes which have been assigned for "low fees in the medical profession," one has been unnoticed which is undoubtedly the most potent of all. A "Common-sense Doctor" has come pretty near it in specifying as *the* cause of low fees the poverty of the mass of the people who have to pay them; but it may be a question whether, in the present state of society, the cure he proposes might not be worse than the disease. Strange, surely, that it seems to have occurred to no one to remark, that a nation which spent over £123,000,000 on liquor in 1885 must be rather hard up for ready money wherewith to pay its legitimate bills.

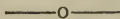
There are about 15,000 medical men in England who are earning a living by their profession. An addition of £200 a year to their incomes all round would be, we doubt not, very acceptable, and yet the sum which would do it would be less than a fortieth of the drink bill of England. Some cynical observer may say that if the drink went, our occupation would go with it, for that the great bulk of the disease we have to treat is due, directly or indirectly, to alcohol. But the same habit which produces the disease annuls the power to pay for the treatment, and to this cause more than anything else is due the amount of unpaid work which the profession has to do. Amongst a sober, well-to-do people, there will be enough still for the doctor to do, and money wherewithal to pay him. He will have less work and more pay. It seems, therefore, time that the medical profession as a body, and in self-defence, began a crusade against drink.

First, then, by example and precept, every medical man ought to testify that in health, at all events, work of all kinds is better done without stimulants. That is the testimony of all competent to give an opinion, whether scientific investigators, commanders of armies, Arctic explorers, or employers of labour. Unfortunately our

own profession affords too many instances of the converse. We lately heard Professor Chien relate to his students the account he had received of the downward course of a medical man, from one in his district. "First we pressed him, and he took it; then he asked for it, and we gave it to him; at last he asked for it, and we had to refuse it." "Let it be an inviolable rule," said the Professor, "never to take drink when on your rounds;" and we would add, Never take it when you are off. Then a man can tell the labourer and the artisan that he needs no drink to do his work on. Next, no medical man ought ever to order stimulants to a patient unless he is thoroughly and honestly convinced that the nature of the case requires it. And above all things never prescribe it to hysterical, weak-minded women. Thirdly, let medical men give hearty countenance and help to every combined effort made to put a stop to those social habits and drinking customs, which are the source of a great part of the intemperance which is abroad. Fourthly, let them use every opportunity of urging that the best remedy for many forms of intemperance is the supply of a sufficiency of well-cooked nutritive food. Mattieu Williams, in his book on the chemistry of cookery, relates a remarkable experience of his own. He had lost the track when travelling in Norway. "I pushed on to a still wilder region and rougher quarters—five days of extreme hardship with no other food than flat-brod (very coarse oatcake), and bilberries gathered on the way, varied on one occasion with the luxury of two raw turnips. Then I reached a comparatively luxurious station, where ham and eggs and claret were obtainable. The first glass of claret produced an effect that alarmed me—a craving for more and for stronger drink, that was almost irresistible. I finished a bottle of St. Julien, and nothing but a strong effort of will prevented me from then ordering brandy." His practical inference is a very sound

one. "That speech making, pledge signing, and blue-ribbon missions, can only effect temporary results unless supplemented by satisfying the natural appetite of hungry people by supplies of food that are not only nutritious but savoury and *varied*. Such food need not be more expensive than that which is commonly eaten by the poorest Englishmen, but it must be far better cooked." Temperance reforms have not yet universally grasped this aspect of the subject, and it belongs especially to the medical profession to explain and enforce it. Fifthly, medical men ought to assist in educating public opinion in reference to the proper plan of temperance legislation. Local option is the only form of legislation that commends itself to our judgment. It is fair and reasonable that a community should decide for itself to what extent it will permit the presence within its confines of places where people can get intoxicated. But far better than any positive legislation, and more in

accordance with the proper function of Government, we believe would be to give an easy, cheap, and speedy legal means, by which husbands and wives, parents and children, also guardians of the poor or employers of labour, could claim damages from the publican for all injury caused by intemperance. There is no reason whatever why publicans should be exempt from the law that he who supplies the means of doing mischief is responsible for any mischief that is done. Let it be law, that if written notice is served on a publican by the parent, guardian, wife, husband, or employer of any individual, or by the guardians of the poor, that so-and-so is being unfitted for the discharge of his duties by drink supplied to him by that publican, and let speedy redress by law be given if the offence is continued, and I am convinced that a more effectual blow would be dealt to the drinking habits of the country than in any other way.—*Prov. Med. Journal.*



A MEDICAL TEMPERANCE LEAGUE IN CANADA.

THE newly-created Medical Temperance League held its first public meeting in the lecture-room of Trinity Medical School, Toronto, on Thursday evening, December 2nd. About 150 students were present.

The Hon. PRESIDENT, Dr. Wright, said it gave him much pleasure to accept the high honour the League had conferred upon him in selecting him as their Hon. President. It was gratifying to know that they were engaged in a movement that was stirring society solidly against the liquor traffic. After many years' experience, professional and otherwise, he had felt it incumbent upon him to join in the work of temperance reform. They had organised their League upon a judicious and broad basis, both moderates and total abstainers being admitted as members to its ranks. Although he had much pleasure in inviting them all to join a League resting on so broad a principle, yet he believed that total

abstinence would be the future work of the League.

Mr. W. W. BALDWIN, Secretary, also gave some explanation relative to the objects and work of the League. He was glad to say that 104 signatures had been obtained by eight out of twenty-five members of the committee. This was encouraging, and he thought larger additions would be obtained shortly.

Dr. OLDWRIGHT thought they should place a large placard on the doors of both their schools, stating that immediately after paying their registration fee, the students would be required to join the League, and pay another fee—(laughter)—although he thought Mr. Baldwin was not so anxious for fees as for members. (Laughter.)

Dr. GEIKIE was exceedingly glad to say that he was entirely and cordially in sympathy with the good work of the students, seeing that the movement had sprung up from among themselves. He would urge upon

them all to give their influence to the work, not more for their own benefit than for that of others. He hoped the movement would not be a passing breeze, but sincerely hoped it would not be permitted to flag. They had taken a good stand in the sight of God, and they should be determined to maintain it. He was pleased to know that so many had joined the total abstinence section, thus showing their determination to avoid an evil that had done great harm to society and the world. It was impossible for them to tell what influences for good their example might create.

Dr. ATKINS had always, when in practice (as he would continue to do), induced his patients to give up the use of stimulants. He had known sad wrecks caused by medical men in prescribing intoxicating drinks, not intentionally, as they probably thought at the time that benefit would be derived from their employment. He knew of no less than twenty medical men in Toronto who had gone down to their graves through drink. A man who is sober, with a fair intellect, he thought, was certain to succeed in practice. He felt horrified when he thought of the dangers to which students were exposed in hotels whilst attending college. Young men had no idea of the evils that were surrounding them. There was reason, therefore, that they should become members of the League, and so be prepared to meet these temptations and overcome them.

J. J. MACLAREN, Q.C., had much pleasure in congratulating the new League upon the officers they had selected. If medical men who practised about fifty years ago had seen such a meeting as this, and heard the two deans of their schools speaking as they had done this evening, they would have thought they "were off their base." He thought the students undervalued the influence they exercised for the promotion of good. He would urge upon them to study the effects of alcohol from a scientific point of view. He had listened a short time ago to an admirable address, delivered by Dr. Geikie, upon the effects of alcohol and beer upon the human system, and

thought the doctor should be prevailed upon to repeat it for the information of the students, so that they might make the subject the theme for further study.

Mayor HOWLAND, who was greeted with applause, said he was pleased to be present at such a gathering of students and faculty. For ten years he had been a teetotaler, and for nine years he had given up the use of tobacco, and yet he was able to say that he had never been in better health; although he worked constantly and hard all day, the moment he retired for the night he slept like a top. The difference of condition before and after even the moderate use of spirits and tobacco was very marked indeed, so that he could judge from personal experience as to the good effects of total abstinence. Although many changes had taken place in the temperance movement he believed they would see more marked changes, both political and social, and the end of the liquor traffic was surely at hand. He gave some very amusing extracts from a pamphlet issued by a brewer in Toronto to brewers and retailers. It gave a list of various compounds for improving bad beer and mixing various drinks. The League could not afford to play with such dreadful weapons as those, or to prescribe such drugs; neither could they afford to make mistakes; they must have clear brains in such a profession, and for this they must abstain from the use of liquors. There was no profession, he thought, that was looked up to with more respect than the medical profession; they had special opportunities to exert their influence for good, and so bring blessings upon themselves. The medical man can, by his tenderness and goodness touch the heart. He had much pleasure in congratulating them upon such an organisation, and trusted that the League would in every way prove a success.

Dr. GEIKIE, on behalf of the faculty, seconded by Mr. SMITH, on behalf of the students, moved a vote of thanks to the several non-medicos who had assisted them in the work of the evening.—*Dominion Church of England Temperance Journal.*

THE MEDICAL ABSTAINER'S DIFFICULTY.

NOTICING Dr. Allinson's statement at a recent meeting in St. Pancras Vestry Hall, that "a medical man took bread from his own mouth by advocating total abstinence, for it was the public-house that, in a great measure, kept him going," Dr. W. Fleming Phillips, of Southampton, says:—

I write as a medical man to say that that is simply and literally the statement of a fact, of which my own observation years ago convinced me—a conviction which every additional year of practice only serves to strengthen and confirm. To that statement, indeed, I would add explicitly, what Dr. Allinson no doubt intended to be implied, that it is not the public-house only, but the wine merchant and the licensed grocer that sends grist to the physician's mill. I suppose the same observation has repeatedly been made and publicly avowed before; but it is a source of never-ending surprise to me that the people who see this truth should fail to see its logical sequences. The only moral usually drawn from such a fact appears to be that it is simply another proof of the truth and value of total abstinence.

It is for the purpose of pointing out the other moral—which seems hitherto to have escaped observation—that I am writing now. No one but a medical man, who has for years systematically and continuously in his daily practice, as occasion arose, advised his patients to abstain entirely from alcoholic drinks—explaining to them whenever it was possible the principal reasons known to modern medical science for so doing—can have any adequate conception of the enormous influence for good which the profession can exercise upon the physical and moral well-being of the community in the ordinary course of medical practice; and I may add that no one knows so well as he how much he impoverishes himself by such a course of action. "That is a hardship," some may say. It is: but if that were all I would not trouble you

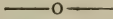
with this communication. It is an evil and a wrong, because it discourages and seriously impedes the spread of truth, not only on the question of alcohol, but also on every other question affecting the prevention of disease.

Most medical men cannot afford to take the bread out of their own mouths, and so those mouths are shut, when, for the public good, they ought to be opened. It was a curious blunder which was recently made by Sir Andrew Clark, when he said that he felt inclined to give up his profession and devote himself to a crusade against the evils of strong drink. I should not have thought he needed to have it pointed out that he and every other medical man could do more good if they chose by continuing the practice of their profession, and speaking the truth of this, the most potent cause of disease, whenever opportunity arose, and that is, every day. But here again we are met by the difficulty of the false position in which the medical adviser is placed in regard to his patients—a difficulty which not only keeps some advisers silent on this subject, but which prevents still more of them from investigating the subject with a mind free from bias, and so seeking the truth for themselves. The patient's fee is practically a temptation and an inducement to the doctor to treat the illness merely, and that in a way that shall be pleasing to the patient, and not to trouble himself about the causation and prevention of the malady at all. He instinctively feels that his business is to treat patients who come to him for treatment, and neither to offend them and so drive them away, nor even to reduce the number of his fees by studying the best and quickest way of getting the patient cured, and a recurrence of the illness prevented. Doctors are human, and having "learned a profession," they naturally look to it for the sustenance of themselves and those dependent on them; and those who are inclined to blame them for their attitude in reference to this and kindred matters, should first

pause and ask themselves whether they would act differently if they were placed in the same circumstances.

But is there no way out of this difficulty? That is the point. Is it really a necessary evil? Must we go on inflicting this injustice on the profession, punishing the more skilful and conscientious among them, and rewarding those who are either too ignorant or too politic to see or speak the truth? If the public, or any portion of them,

are really desirous of enlisting the services of the medical profession as a body to teach the people, young and old, rich and poor, how to avoid the disease and misery produced by alcohol and by other health-destroying agencies as well, it is only necessary for them to cease paying the doctors on the old and foolish principle—the relic of barbarous times—to adopt instead the plan now known as “Health Assurance,” and do their best to spread it.



HABITS AND HEART DISEASE

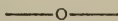
In a paper on “Chronic Valvular Disease,” read at the Brighton meeting of the British Medical Association, Sir Andrew Clark, Bart., M.D., F.R.S., referred to the influence of long-continued petty violations of nature’s laws in producing and maintaining disease of the heart and other ailments. He said:—“The circumstances or conditions which disfavour exemption from the consequences of valvular lesions are numerous and easy to be understood. Some act directly upon the heart, others act through a related physiological system, many act through the state of the general health, and all of them capable of exercising an adverse influence upon this organ, when once in action, seldom cease to act. Chief among the disfavoured circumstances, I specify irregularity of life, excesses and irregularities of eating and drinking, the too generous use of alcoholic beverages, the intemperate use of liquids in themselves harmless, the abuse of tea, coffee, and tobacco, excessive and insufficient exercise, anxious introspection and self-distrust, undisciplined emotions, prolonged and serious cares, inattention to the excretory functions of the body, and a sedentary, self-indulgent life. To many persons—perhaps even to some in this assembly—these statements and suggestions may seem too trite or too trivial to call for radical consideration and discussion. But to me, at least, it seems otherwise;

for when I reflect that there are conditions of health, that it is in long-continued petty violations of them that chronic troubles take root, that it is the little eatings and drinkings and doings of the ever-recurring daily life, which, after their kind, make for health or disease; and that eventually it is at least quite as much through the skilful management of hygiene as through the skilful management of drugs that disorders are overcome and health established; I confess that these small statements assume a great importance. To eat and drink and do what you desire, so long as no sensible inconvenience follows the indulgence, is a very pleasant and a very popular prescription; but, if I can read aright my experience of medicine and of life, there is no prescription fraught with greater or with surer peril. The true and lasting effects of errors in habits, and in the uses of food and of alcohol, seldom become manifest until long after those errors have been begun. It often happens, indeed, not only that there is nothing in your feelings to make you aware that you are taking too much or doing what is wrong, but that there is something in your feelings which makes you believe that your health is becoming exceptionally good. Look at some young and generous liver, who eats to the limits of his appetite, and drinks to the fulness of his desire. In his well-nourished body, in his rosy face, in his animated

expression, in his vivacious manners, in his rampant spirits, in his hardy habits, in his unceasing activities, and in his scorn of what *he* calls excess, you seem to see the embodiment of the health and strength of which, sometimes smiting his breast, he will proudly boast. But if you will wait and watch, you will find, before fifty comes upon him, that in a crippled heart, or in thickening arteries, or in a shrinking kidney, or in an indurating liver, he is already paying the price of pleasures which he knew not were forbidden."

During the discussion that followed the reading of Sir Andrew Clark's

paper, Dr. Clifford Allbutt, of Leeds, said: "I cannot tell you how important dietary considerations are in cases of this sort. Tobacco is important, tea is important: but, above all, alcohol. I am perfectly certain that people who take a liberal quantity of wines and spirits do much to weaken the ventricles. The action of tea and tobacco is more transient, and after dropping the habit the inconveniences tend to disappear, but alcohol seems to have a direct and pernicious influence on the heart substance. Often, by simply giving up rich living, wines and the like, a murmur will disappear, and the general health improve."



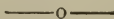
BACTERIA IN DRINKING WATER.

MR. MEADE BOLTON has contributed an important paper on this subject to Koch and Pflüger's *Zeitschrift für Hygiene*. He finds that in ordinary spring water certain bacteria are always present, and are capable of multiplying in it. Among these may be specially mentioned *Micrococcus aquatilis*, occurring as cocci collected into small irregular heaps, and *Bacillus erythrosporus*, distinguished by its spores having a reddish-brown sheen, and the presence of a greenish pigment without any deliquescence of the gelatine in which it was cultivated. Both these bacteria multiply with extraordinary rapidity in water, the quality of the water and the amount of organic and inorganic substances contained in it appearing to have no effect on the reproduction of the microbe, which is, however, materially promoted by a rise of temperature. It took place considerably quicker at 35 deg. than at 20 deg. These bacteria are not pathogenic.

On the other hand, the author found

that pathogenic bacteria, when introduced into spring water, never multiply, but disappear after a time varying in length according to the species and the temperature, and according as to whether the species produces resting-spores or not. The spores of *Bacillus anthracis* had not lost their vitality in a year and a day; those of typhus fever were still active after a month, but not after ten and a half-months. The quality of the water appears to have no influence in prolonging the life of pathogenic bacteria.

The general conclusions drawn by the author are that the quantity of bacteria present in spring water is no guide whatever in determining the wholesomeness or otherwise of the water for drinking purposes, since they are most entirely harmless, and that it is impossible by chemical analysis to determine the presence of bacteria in larger or smaller numbers. The presence of the specific pathogenic bacteria can only be determined by direct microchemical observation.



British Medical Temperance Association.

—o—

President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every Registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION. Not less than Five Shillings.

ENGLISH BRANCH.

Honorary Secretary.

Dr. J. J. RIDGE, Enfield, Middlesex.

NEW MEMBERS.

Dr. BARON, Clifton.	Dr. MACDONALD, London, W.
Dr. BENHAM, Ipswich.	Dr. PATERSON, Darlington.
Dr. GENTLES, Derby.	Dr. PORTER, New Southgate.
F. R. HAWARD, Esq., Ealing.	Surgeon-Major ROBINSON, Mercara,
Dr. S. JOHNSON, Stoke-upon-Trent.	S. India.

NEW ASSOCIATES.

D. R. POWELL EVANS, Esq., Charing Cross Hospital.
 —. HIGGENS, Esq., St. Mary's Hospital.
 G. LEVERS, Esq., St. Mary's Hospital.
 E. SOLLY, Esq., St. Thomas's Hospital.

SCOTTISH BRANCH.

Honorary Secretary and Treasurer.

Dr. YOUNG, 25, Manor Place, Edinburgh.

NEW MEMBERS.

Dr. BEATTIE, Pitlochry.	Dr. RUMBOLL, Grangemouth.
Dr. HARDYMAN, Edinburgh.	Dr. ROBERTS, Edinburgh.

NEW ASSOCIATES.

F. J. BUTT, Esq., Edinburgh.	D. A. CARRUTHERS, Esq., Edinburgh.
S. R. WEBB, Esq., Edinburgh.	

IRISH BRANCH (CENTRAL).

Honorary Secretary and Treasurer.

Dr. MACDOWEL COSGRAVE, 24, Gardiner's Place, Dublin.

All nominations of members for the posts of President, Members of Council, Hon. Secretary, and Treasurer of the Irish Branch (Central) must be received by the Hon. Sec., not later than the 30th April, 1887.

NEW MEMBERS.

Dr. BEWLEY, Willow Park, Booterstone, Co. Dublin.
 Dr. WALSH, Guirville, Ardfinnan, Cahir, Ireland.

NORTH OF IRELAND BRANCH.

Honorary Secretary and Treasurer.

Dr. W. G. MACKENZIE, Richmond Terrace, Belfast.

NEW MEMBERS.

Dr. BINGHAM, Belfast.

| Dr. SCOTT, Belfast.

Enfield, March, 1887.

J. J. RIDGE, M.D., *Hon. Sec.*



THE SPRING QUARTERLY MEETING.

A MEETING of this Association was held at the Rooms of the Medical Society, Chandos Street, Cavendish Square, W., on Friday, February 18; Dr. B. W. Richardson in the chair.

The first paper read was by Dr. WALTER PEARCE, M.D. (London), M.R.C.P., on "The Absolute and Differential Diagnosis of Alcoholic Paralysis." It is given in full under the head of "Original Contributions."

The President (Dr. RICHARDSON), in commenting on Dr. Pearce's very valuable paper, and on some of the comments which had been made, paid a warm tribute of respect to the genius of the American physician, Dr. Jackson, to whom was due the honour of suggesting and first practising the hygienic or outdoor treatment of pulmonary consumption, and who, between sixty and seventy years ago diagnosed alcoholic paralysis as Dr. Pearce had shown. Jackson's labours did not in any way diminish the claims of Magnus Huss, who had worked out his point quite independently. Touching the cause of the paralysis Dr. Richardson inclined to the view that the first change is in the peripheral parts of the nervous expanse. Every symptom to his mind pointed to that origin, but what the nature of the change was had yet to be discovered. He himself, judging from his experiments on nervous fluid and which he had described in his lecture on Pectous changes, delivered

some years ago before the Hunterian Society of London, thought the change might be induced by the direct, long-continued, action of alcohol, on the nervous fluid, by a process of coagulation or condensation, by which impressions through nervous matter was prevented.

The President next noticed some of the curious instances of recoveries from alcoholic paralysis, giving the details of one case in which recovery took place twice before the fatal seizure. He also gave the particulars of another instance where, after an apoplectic attack, causing coma and unconsciousness for five days, the consciousness returned and life was continued with progressive paralysis for two years—the death at last taking place from extension of the paralysis to the muscles of respiration. In treating of the special form of paralysis in the affected, the proneness of the extensor muscles to lose power in the first instance, and the particular feature of wrist drop, Dr. Richardson was led to dwell on the analogy between the action of alcohol and of lead, observing how very apt we were to shut our eyes to the plainest evidence as to cause of disease when two different causes produced similar classes of symptoms. Now that his own eyes were opened to the diagnosis of alcoholic paralysis, he felt quite sure that in the course of his life he had over and over again

attributed to the action of lead what was clearly due to the action of alcohol. In illustrating this point he related the facts connected with a case of supposed lead palsy, in which he and his colleagues, in their anxiety to get at the cause, had gone to the utmost expense and trouble to secure the best analyses for lead in all the specimens of water with which the patient had been supplied for some years before the first symptoms of his attack had presented themselves, but no lead was ever found, and looking back at the clinical history which he had kept of the case there could not be a doubt that alcohol, and not lead, was at the bottom of the evil. In the ignorance that prevailed on this point the very life of the patient depended; for, under the idea that he required to be supported, alcohol was as freely as falsely supplied. Of course we now know that the essence of treatment in these cases lies in total abstinence from alcohol, and that if total abstinence were general this form of paralysis would be swept altogether from the field of disease. In this respect, therefore, as in many others, total abstainers were sanitarians of the strictest and most useful order, with prevention of disease as their first and standard work.

Dr. DRYSDALE and Dr. NORMAN KERR both thanked Dr. PEARCE for his clear exposition of the subject.

A short discussion followed, and a vote of thanks was given to Dr. Pearce for his paper.

Dr. NORMAN KERR then read a paper on the Remarkable Decrease of Intoxicants in Workhouses, which is given in full elsewhere,

Dr. HOWARD (Ealing), said that he had given up prescribing intoxicating liquors for years, with one or two rare exceptions. He conducted his parish district on the same lines. Both with parochial and private patients he experienced much deeper satisfaction than when he used to order intoxicants freely.

Dr. DRYSDALE bore testimony to the influence of Dr. Kerr's papers on Workhouse Stimulants, especially the one read to the Poor Law Medical Officers' Association at Liverpool, which eventuated in the passage of a remarkable resolution which had been circulated through all the parishes in the kingdom. He rejoiced at the enormous reduction in the cost of alcohol in workhouses.

Surgeon-Major POOLE, as a guardian, hoped that the paper would be printed and sent to every Board of Guardians and every medical officer. He felt sure that, if all the guardians and doctors were aware of the facts just laid before the meeting, a still greater reduction would follow.

The CHAIRMAN descanted on the value of the facts stated, and hoped that they would be fully laid before every one interested and engaged in poor law effort, and brought the meeting to a close by proposing a vote of thanks, which was heartily received, to Dr. Kerr.

NORTH OF IRELAND BRANCH.

ON Saturday, the 5th February, the members of this association met in the Lombard Cafe, Belfast, at breakfast. There were present the President, Brigade Surgeon M'Farland, Dr. W. S. Mackenzie, Hon. Sec. and Treasurer, and the following members, viz.:—Prof. Thomas Sinclair, Queen's College, Belfast; Drs. Dickie, Howard, Sinclair, J. M. Barnett (Indian Army), Byers, O'Neill, and R. F. Sinclair.

After breakfast, the secretary reported that he had received letters from the following members regretting their inability to attend the meeting, viz.:—from Drs. Bryce Smith, J. A. Lindsay, and A. H. H. M'Murtry, Belfast; and from the following country members, viz.:—Dr. Martin, Portrush; Dr. Saggart, Antrim; Dr. M'Caw, Portglenone; Dr. Dickson, Ballynahinch; Dr. J. Sower Allen, Keady; Dr. Thompson, Anahilt; Dr.

H. M. Johnston, County Donegal ; and Dr. Mullan, Ballymena. The secretary further reported that since the formation of the branch about six months ago the membership had considerably increased, so that at present there are 25 medical men members of the branch, besides some associates. The advisability of endeavouring to influence towards temperance views the medical students and to induce them to become asso-

ciates was discussed, and it was finally decided that with this view associates should be admitted to the association without payment. It was further decided, that there should be meetings every quarter in future, to which students should be invited, the next meeting to be on the 5th April next. The meeting, which was of a very cordial and hopeful character, then separated.

THE HON. SECRETARY'S REPLY TO AN OBJECTION.

MR. HENRY HORTON (Bromyard) writes:—"I shall be glad if you will allow me to call attention to a decided misnomer in the advertisement columns of the *British Medical Journal* for December 18th. I refer to that of the 'British Medical Temperance Association,' the first condition of membership proving that its correct title would be the 'British Medical Total Abstinence Association.' I have not a word of complaint against total abstinents as such, but I strongly object to their attempts to appropriate the word 'temperance' to themselves, to the exclusion of those who believe that the moderate use of all the good things of the earth is more in accord both with Scriptural teaching and the dictates of sound common sense."—*British Medical Journal*, Jan. 1.

(To the Editor of the *British Medical Journal*.)

SIR,—Your correspondent, Mr. Horton, having entered a protest against the title of the British Medical Temperance Association, you will doubtless allow me to attempt to justify it, especially as he has expressed the views of not a few others who do not understand our position. I am quite aware that "temperance" is far wider in its meaning than total abstinence. In the Revised Version of the New Testament, the word self-control takes the place of the word temperance, and exactly expresses its fuller meaning. Temperance is the control (both guid-

ance and restraint) of every part of the complex being called man; it means control of the thoughts, feelings (or emotions or passions), and muscular system. It is a function of the will, and is exercised in response to the decisions of the judgment. All education has for one of its ends, and not the least of them, the improvement of this faculty, and as manhood comes on we expect to see this power of self-control — this temperance — exercising its sway more and more perfectly over successively higher brain-centres.

Now we call ourselves a "temperance" association because our object is to confirm and increase self-control (namely, temperance) by total abstinence from certain liquors containing alcohol, whose physiological action is to diminish self-control, and finally to abolish it.

If Mr. Horton will think the matter over, he will find that the action of alcohol on the nervous system from first to last, as soon as ever any effect is produced at all, is to take away self-control in precisely the reverse order to that in which it has been acquired. A glass of wine is said, in popular language, to stimulate thought; what it does is to allow the thought to flow more automatically, and so as a rule more freely (just as, in moments of dreaming, imagination is often marvellously brilliant). That the thought-centre is less under control is evident from the fact that any exercise de-

manding close attention and concentration of thought cannot be so well performed under the influence of even a little alcohol. Hence arises the fact that men say and do, after taking a glass of wine or beer, that which they would not have said or done without it. Later on, the emotional centres find themselves more free to act in response to appropriate stimuli, the result being good or bad according to circumstances (namely, a charity dinner, a quarrel, a music-hall, &c.). Later on (though all these circles overlap, and men's mental and moral natures vary considerably), the control of the muscles begins to be weakened, and then is lost; while, as a final step, the automatic stimulus to the involuntary muscles is paralysed, and death closes the scene.

Mr. Horton refers to common sense; well, common sense is a variable thing, but mine seems to teach me that, if I want to develop self-control, and maintain it at its highest possible elevation, I must advise total abstinence from everything which tends to weaken it by never so little.

Mr. Horton refers to Scripture. I will not enter into that question further than to ask him to note that St. Paul says: "Those who strive in the games are temperate in all things." Now, as we know that it was the custom of such persons to abstain from wine, we have direct Scripture testimony that true temperance is not only compatible with total abstinence, but that the latter stands to the former as one means to that end.

I hope that Mr. Horton will see that he begs the question when he contrasts total abstinence from alcohol with "the moderate use of all the good things of the earth." The point is, Are intoxicating liquors "good things" in so-called moderation? That some of them (or even all, by acquired taste) are pleasant to the

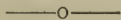
palate is no evidence of their "goodness." Chloroform is sweet, and a taste for it is just as easily acquired; yet I venture to suppose that Mr. Horton is a total abstainer from chloroform (that is, from its regular habitual use, or consumption as a luxury, which alone our association requires). Any other narcotic may become just as pleasant and just as much a felt assistance and necessity, if it be regularly taken. Such habits medical men emphatically condemn and warn against; the British Medical Temperance Association includes alcohol in its list of proscribed narcotics, and puts it first because it is the most commonly employed, and in this age and nation the cause of untold vice, crime, and misery, a thousand times more than all the other narcotics put together. I fail to see how this can be foolish or wanting in common sense. The desire for such liquors is artificial, the result of custom, example, sometimes, perhaps, of heredity, oftener of prescription, and that, I regret to believe, medical prescription. Its progress is insidious, and generally irresistible when so far advanced as to be notorious. We believe in stopping before we begin, or in leaving off at the first opportunity, which is now; and we regard the medical profession as peculiarly bound to warn men from the habitual use of alcohol, the more so if they employ it as a drug for special purposes. It is a material cause of moral evil, and as it is by its physiological action on nervous tissue that this proceeds, the doctor of the body should be the first to raise his voice, and thus co-operate with the doctors of the soul to elevate the race and raise the moral standard of the nation.

Yours very truly,

J. JAMES RIDGE,

Hon. Sec. B.M.T.A.

Carlton House, Enfield.



INVESTMENTS IN BEER.—A calculation of the new brewery companies floated since the firm of Guinness set the fashion shows that altogether thirteen private firms have been transformed into limited liability concerns, with a capital of nearly twelve millions.

Society for the Study and Cure of Inebriety.



PREVAILING INDIFFERENCE TO INEBRIETY.

THE quarterly meeting of the Society was held in the rooms of the Medical Society of London, on Tuesday, 4th January, when the chair was taken by the President, Dr. Norman Kerr, and a paper on "The Prevailing Indifference to Inebriety" (given in full elsewhere) was read by Mr. Tudor Trevor, of Leeds.

Dr. H. W. WILLIAMS, in expressing his thanks to the reader of the paper, enforced the physical aspect of inebriety. The crave was terrible in many cases, was a physical disease, and could not be prevented. Though it could not be prevented in persons suffering from this disease, it could be resisted, and he earnestly desired to impress on all interested in the welfare of the inebriate, the great value of prayer in aiding the subject of the crave to resist it. Help from on high was truly needed, and in many cases no other help could keep the cure permanent.

Mr. JOHN HILTON: So serious were the physical as well as the moral aspects of inebriety, as brought out by the operations of this Society, and so awful was the mischief to the people and to the community, that it was of the utmost importance for the leaders of thought to be thoroughly well informed on the results of the Society's deliberations. When one spoke even to men of science and of station on the subject of inebriety, the reply generally was "We know all about it." The very opposite was the truth. We do not know all about inebriety. People have not heard enough about it. The very fact that children were born with a taste for drink ought to stir up both Christian workers and scientific men to thoroughly investigate the whole subject, so as to understand it in all its

bearings. In his own experience it was comparatively easy to reclaim a drunkard. The difficulty was to keep the reclaimed inebriate firm. He had often found restored inebriates go on for a long time, and then suddenly break down. He never could exactly understand how. One told him he was walking on the street, when a sudden overpowering desire to take a glass of strong drink came over him. He tried to repress it, but failed. The old want of drink persisted, and he had to run down the street as hard as he could, get home, and lock himself in his bedroom, where he spent some time praying and agonising before this fierce craving ceased. Both this man's mother and father were drunkards. This and other similar cases proved to him that there was a secret disease or craving, inebriety.

Mr. GUSTAFSON: This is a unique society for the study and cure of a certain disease, a study so vast that if the members gave their whole attention to it they would slowly gather materials impressive enough to convince legislators and others of the urgent need for stronger and permanent legislation on behalf of the habitual drunkard. The inherited drink crave alone was a wide subject. If we could acquire sufficient knowledge to understand this thoroughly we should do much to prevent inebriety. He trusted the society would add greatly to the knowledge of the conditions and ramifications of inebriety.

Mr. J. H. RAPER, while expressing his high estimate of the value of the paper, called special attention to the statements by Mr. Trevor, out of a long experience of rescue work, that total abstinence was the only cure for inebriety. Nothing could be truer.

He had never heard of a rescued inebriate remaining a moderate drinker. Yet it was a prevailing belief that drunkards could go to such excellent institutions as the Dalrymple Home, and be cured there on total abstinence, and when they came out these discharged patients could indulge in alcoholic liquors with safety. Probably no one present thought so, but such a belief undoubtedly was very prevalent. This was a fatal error for many cured inebriates. Mr. Raper quite agreed with the reader as to the indifference to inebriety manifested by the public at large. He saw no alternative but to go on doing all that was possible to bring to the public notice an accurate knowledge of the facts, as to which they were imperfectly informed. It was sometimes objected that inebriates who were said to be cured relapsed again, and could not be said to be really cured. But in hospitals, gout and other diseases were said to be cured when the patient was discharged free of the disease. So in like manner, Homes for Inebriates could claim to effect the cure of inebriates. Many, too, remained permanently cured. The published statistics gave no real idea of the extent of inebriety. As a member of the Watch Committee at Birmingham once said with reference to the number of persons arrested for drunkenness, "one turn of the screw would make ten times more." There was, too, an enormous amount of secret inebriety, which was a most serious evil. Mr. Raper trusted that the efforts of the Society would result in a renewed and better Habitual Drunkards Act two years hence.

The PRESIDENT: In that snowy and inclement weather they owed a deeper debt of gratitude than usual to Mr. Tudor Trevor for his long journey and for his vigorous and thoughtful paper. Mr. Trevor had peculiar opportunities for acquiring a knowledge of inebriates, as he, for many years past, had warmly interested himself in rescue work. It was an auspicious omen that Mr. Trevor, as a Diocesan Secretary of the Church of England Temperance Society, should come forward, and so

clearly lay down the physical and disease aspects of inebriety. The religious world as a whole, and the temperance world as a whole, though there were many exceptions, did not see that drunkenness was often a disease which should be treated as any other disease. There was a time when insanity was thought by theologians to be a possession of the devil, and the insane were stripped naked, scrubbed, exposed to the cold, beaten, and cold water poured over them to drive the devil out of them. When medical men proposed to discontinue this kill-or-cure plan, theologians objected and denounced the attempt as impious. But enlightenment gradually spread, and when the Church had its eyes opened to the fact that insanity was a disease, no further opposition was offered to the humane mode of treating unsoundness of mind. Now, there were no warmer friends of the amelioration of the treatment of the insane than clergymen. So it would be with inebriety. As soon as the Church recognised that inebriety was a disease, there would be no more enthusiastic champions of the remedial medical treatment of inebriety. The clear and emphatic testimony of Mr. Hilton and Mr. Raper, so well known as representing the United Kingdom Alliance for the suppression of the Liquor Traffic was an auspicious omen of a more general recognition of the disease aspect of inebriety by the intelligent advocates of prohibition. The explanation of the case mentioned by Mr. Hilton was that, scientifically, inebriety was a constitutional disease of the higher nerve-centres, transmitted by heredity. Though the subject became an abstainer and continued such all his life, he still to the end was not free from the physical disease. Nay, there were persons in every rank in life who had never tasted intoxicating drinks, and yet were the subjects of inherited inebriety. The disease consisted in an overpowering craving for intoxication or narcotism. Alcoholic inebriety was our general drunkenness, because alcohol was our usual intoxicant. But, in other circumstances, ether or

opium inebriety would be the prevailing form. All drunkards were not diseased to begin with. Many drank, just as they would do anything else, for mere pleasure, but in even these alcohol drinking might set up the true disease of inebriety, which more-

over, would be transmitted to the progeny.

The President concluded by conveying the thanks of the meeting to Mr. Trevor, who briefly replied.

The meeting then adjourned till the 5th of April next.

THE COLONIAL AND INTERNATIONAL CONGRESS ON INEBRIETY,

Organised by the Council of the Society for the Study and Cure of Inebriety, and unavoidably postponed from 1886, will be held on Wednesday, 6th July, 1887, in the Westminster Town Hall, Caxton Street, Westminster, London, S.W., England.

Morning Sitting—Council Chamber, 10.30 a.m. till 1.0 p.m.

Afternoon Sitting—Council Chamber, 2 p.m. till 5 p.m.

Public Dinner—Large Hall, 6.30 p.m.

At the Day Sitzings, after the President's Opening Address, papers on various phases of Inebriety as a disease, and on Legislation for Inebriates, will be read by Mons. le Chevalier Max Proskowetz de Proskow-Marstorf, President of the Austrian Inebriety Society; Professor Binz, of Bonn; Dr. Moeller, of Brussels; Dr. N. S. Davis, President of the International Medical Congress; Clark Bell, Esq., President of the Medico-legal Society of New York; Dr. Joseph Parrish, President of the American Inebriety Society; Dr. T. D. Crothers, Editor of the American Quarterly Journal of Inebriety; Dr. Edward C. Mann, of Brooklyn; The Archbishop of Armagh, Rev. Dr. de

Colleville, Rev. J. W. Horsley, M.A.; Dr. Cameron, M.P.; and Dr. Alfred Carpenter, J.P. The President will also present a Report of a Special Inquiry into Colonial Legislation for Habitual Drunkards.

A public dinner (without intoxicants) will be held at 6.30 p.m., in the Large Hall. The Band of the Guards will play during dinner. Tickets, gentlemen, 15s.; ladies, 10s. 6d.

The colonial, foreign, and provincial visitors, are invited to lunch with Canon Duckworth and the Committee at the Dalrymple Home for Inebriates, the Cedars, Rickmansworth, Hertfordshire, on Thursday, 7th July, 1887.

Application for tickets for public dinner to be made to C. H. Bishop, Secretary, 42, Grove Road, Regent's Park, London, N.W. Visitors desirous to accept the invitation to the Dalrymple Home lunch are requested to notify Mr. Bishop, as above.

Gentlemen willing to act as stewards at the dinner, the only responsibility involved in which will be the price of one gentleman's dinner ticket, viz., 15s., are requested to inform Mr. Bishop.

A MEDICAL TEMPERANCE PRIZE ESSAY.—At a recent meeting of the Toronto Medical Temperance League, the Hon. S. H. Blake, Q.C., offered twenty dollars to the members of the League for the best essay on "The effect of alcohol on the human mind and body." The time is limited to June 1st, 1887. When asked how many would be likely to compete for the prize, one of the students replied that about two hundred at least would enter the field.

Notes and Extracts.

TEMPERANCE IN THE NAVY.—Commenting upon a recent meeting of the National Temperance League held at the Westminster Town Hall, the *Lancet* says:—"It must be admitted that poor Jack needs all the help he can from high officials and kindly people like Miss Weston. Too often his case is, as the poet has it,

'Saved from the sea,
And shipwrecked on the land.'"

THE EFFECTS OF ALCOHOL.—Replying to a correspondent, the *Lancet* of the 19th February, says:—"It is not possible to state with arithmetical precision the proportion of diseases due to alcohol. It is certainly very large. Medical opinion on the diseases due to alcohol is to be gathered from various quarters, rather than from any one book. The views of many eminent medical men may be found in the evidence taken on the subject by the Committee of the House of Lords in 1878-9. There is a preponderating amount of medical opinion to the effect that all but a very moderate amount of alcohol to the majority of people is injurious."

DRINK ACCIDENTS AT HOSPITALS.—At a *Conversazione* of the National Temperance League, held on the 21st of January, Professor Victor Horsley, F.R.S., said:—"I have the honour to belong to two hospitals—one private and one general. In the special hospital I see the remote effects of disease, but when I tell you that in the casualty wards of such general hospitals as exist in this city, regularly on Saturday night 90 per cent. of the injuries admitted are directly due to drink; and that on Boxing Day only this last year, in two hospitals every admission was due to drink, I need not bring forward further proof of the necessity for restrictive legislation."

HOSPITAL NURSES.—Recently an invitation was issued, at the request of the Birmingham Ladies' Temperance Society, by Mr. Henry Mor-

gan, of Edgbaston, to a social gathering in his own house of hospital nurses. The Superintendent and some twenty-five of the nurses of the Workhouse infirmary responded to this invitation. First tea and a musical entertainment was provided, and then addresses were given on the importance of abstinence among hospital nurses by the Resident House Surgeon at the General Hospital, Mr. Alderman Manton, Mr. Henry Morgan, Miss Cadbury and others. As the result of this special appeal fifteen of the nurses put on the blue ribbon.

BAD BEER MADE INTO MEDICINE.—It is said that a brewery agent in the West of England found himself some time ago with a large quantity of unsaleable beer on his hands that had "gone off." This misfortune brought him to the verge of bankruptcy, but as a last resource he sent for an analytical chemist, explained the case, and asked him what was to be done. The chemist considered the matter, and recommended a process of treatment which would restore the tone of the beer, although still leaving it with a peculiar taste. The beer was accordingly treated as advised, advertised throughout the West of England as a peculiar tonic ale, and sold in enormous quantities. The beer is now one of the most popular in the West of England; it is drunk by invalids and aldermen, praised by the faculty, and believed in by the public, although, before it was chemically treated, it was not worth twopence a hogshead, and the agent merely called in the chemist as an alternative to a fiat in bankruptcy.—*Brit. and Col. Druggist.*

A PROFESSIONAL GOLDEN WEDDING.—The American correspondent of the *British Medical Journal* (February 19) states that "Dr. N. S. Davis, the venerable founder of the American Medical Association and of Chicago Medical College, has just celebrated his golden wedding with the profession of medicine at the college which he

founded nearly thirty years ago. A large and distinguished company assembled to congratulate him, and justice was done to his professional services as a physician, author, professor, and editor. He was presented by the students of the college with a handsome easy chair and revolving bookcase. Dr. Davies stands at the head of the medical profession in Chicago, and is father of the American Medical Association, of which he has been twice president, and of which he is still the moving spirit. He is the editor of the journal of the Association, and will be the president of the International Medical Congress at Washington." It will be remembered that Dr. Davies attended the annual meeting of the British Medical Association last August at Brighton, and delivered a powerful address at the breakfast given by the National Temperance League, stating that he had been a teetotaler during the whole of his professional life. The address is given in full in the National Temperance League's Annual for 1887.

THE CURABILITY OF ALCOHOLIC CIRRHOSIS.—A short time since M. Troisier communicated a case to the Société Médicale des Hôpitaux in which the ascites resulting from cirrhosis of the liver had disappeared under the influence of iodide of potassium and strychnia, and the visceral lesion itself had seemed to be cured. In the discussion which ensued, it was pointed out that ascites sometimes passes away spontaneously in the course of a cirrhosis, and, on the other hand, the affection of the liver may go through all its phases without giving rise to peritoneal effusion. M. Troisier now goes further. He asks whether there does not exist a particular form of alcoholic cirrhosis in which the lesion, stopping short of destruction of the liver-cells, is susceptible of retrogression; and he relates another case in support of this hypothesis. A confirmed drinker, aged sixty-eight, was under the care of a colleague, and presented all the symptoms of hepatic cirrhosis. Between the months of December and September 165 litres of fluid were removed

by tapping at different times. At the present time the peritoneal cavity is empty, the liver slightly enlarged, and the patient in excellent health. M. Bucquoy said that he had seen several similar cases, and he entertained no doubt that other members of the Society had had a like experience.—*Lancet*, December 25, 1886.

MEASUREMENT OF LIFE.—Dr. B. W. Richardson has commenced in his unique and valuable quarterly, the *Asclepiad* (Longmans, Green & Co.), a series of papers on "Practical Biometry; or, the Measurement of Life in Health and Disease," which will, no doubt, prove highly interesting and instructive. The first paper deals chiefly with matters affecting life assurance, and under the heading of "Facts that Most Impress a Board," Dr. Richardson says:—"The report as to the habits of those who propose to insure is held as of primary consideration, and seems to be gaining more and more attention. Habits are well understood in relation to their effects on the body and on life by all intelligent men, and in summing up the results of habits, no refined points of diagnosis are demanded. The results are prominently proclaimed in the facts of daily life. The habit which of all others is held of moment is the drinking habit. What is commonly called moderate drinking is now looked upon with extreme care; and what is called immoderate drinking, intemperance, even with qualifying classes and distinctions, is in these days accepted as one of the worst introductions to the advantages of life insurance. Some Boards reject those who are called intemperate in every stage of the intemperate habit, and even prefer not to be troubled with persons who, having been intemperate, are reported as of entirely reformed character in that respect, and as under the pledge of abstinence from all intoxicating beverages. In a few companies there is a special division of insurers who are pledged to total abstinence. These are distinguished from moderate drinkers, so that they may be able to realise the vital advantages belonging to their mode of life."

THE
MEDICAL TEMPERANCE JOURNAL,
July, 1887.

Original Contributions.

THE ACTION OF ALCOHOL ON MUSCULAR TISSUE.

By CHARLES R. FRANCIS, M.B.

ABOUT twenty years ago, being then connected with the medical college and its hospital in Calcutta, I was much struck, when making post-mortem examinations of Europeans who had died in hospital, with, in some cases, the thinness of the ventricles—the left particularly—of the heart; accompanied by dilatation. In these cases the deaths had been sudden. The patients had not been admitted for heart disease; though, in one or two instances, a sense of cardiac weakness had been spoken of. We found no hypertrophy. In some cases—less prominently however in the heart than in the liver and kidneys—there co-existed fatty degeneration, in the midst of which (in the former and in one or other of the latter) an abscess was found. It may be mentioned here, *en passant*, that abscess of the liver is not uncommonly—more frequently perhaps than we are aware of—associated, in India, with fatty degeneration. Nor need we be surprised at this; as the habits of life which lead to the one may cause also the other. In a most interesting paper in the fifth number of the *Indian Annals of Medical Science*, Mr. C. Macnamara has shown how the European soldier in India, indulging in pork which contains *at least half* and in bacon which contains *more than half* its weight of fat, besides consuming his daily pound of ration meat and partaking freely of alcoholic concoctions in which fusel oil abounds;—his lungs in the hot weather in the plains comparatively inactive; his skin partially congested from prickly heat and therefore imperfectly eliminative; the renal function limited; and the liver not acting with sufficient vicarious fulness;—he has shown how the soldier, thus

enviored and lying very much on his back throughout the day in the hot weather and sleeping a great part of the time, floods his blood with hydro-carbons, which thus become a prolific cause of fatty degeneration throughout the system. Mr. Macnamara believed that this pathological condition alone largely accounted for the deaths and invaliding which, in the course of ten years, would lead to a complete change in the *materiel* of the European regiment—the 1st Bengal Fusiliers—to which he was, when he wrote, attached.

Fatty degeneration was a frequent cause of sudden death after operations in the college hospital during the time when I was connected with it. And there must always be a great risk of this condition ensuing so long as Europeans, and the inhabitants of cold climates, do not, whilst residing in India, assimilate their diet to the requirements of the country. I would take this opportunity of saying that I thoroughly endorse Dr. Harley's opinion, that the excessive consumption of food by our countrymen in India is a fertile cause of hepatic derangements, not uncommonly ending in abscess. Even if they consumed no more than they do at home, it would be excessive. Here, we have, ordinarily, three meals a day;—breakfast, luncheon, and dinner, to say nothing of afternoon tea; in all of which the nitrogenous element is more or less abundant; together with a fair proportion of hydro-carbons. There, it is not uncommon for some families—it is, or was, the practice in European messes,—in Upper India more particularly, to have a double breakfast;—the first between 6 a.m. and 7 a.m. after the morning's work, or ride, or walk. This is the *small* breakfast (*chota haziree*), usually had in the verandah, or just outside it. Eggs, toast and butter, with coffee or tea, frequently constitute the meal. At from 10 a.m. to 10.30 a.m. comes the regular breakfast, consisting of fish, rice, grilled meat, more eggs, &c. At 2 p.m. tiffin—a solid meal—is brought; and at 7 p.m. or later (after the evening drive), there is dinner. It is but fair to say that many families live very much, in the matter of eating and drinking, as at home, and have only three meals a day: but even then, as before observed, too much is consumed. If indulgence in alcoholic potations be added, the result is inevitable:—paralysis of vaso-motor function already deranged by the excessive heat, more conspicuous, according to individual proclivity, in one part than another,—accompanied by the usual symptoms, nervous exhaustion, dyspepsia, hepatic disorder, ending it may be in suppuration or enlargement;—all unjustly attributed to the abominable (!) climate. Fatty degeneration, with abscess, is however more likely to take place in those who indulge in savoury (greasy) dishes, rich soups, *patè de foie gras*, and delicate viands of all descriptions. One of the largest

liver abscesses (associated with fatty degeneration) that I ever saw, occurred, without any tangible symptoms beyond those of slight dyspepsia, in an officer who—a very moderate *drinker*—was yet very epicurean in his tastes. (He was particular about keeping his teeth in good preservation. I counted twenty-two tooth brushes of various shapes, which were in constant use, on his dressing table.)

Fatty degeneration is sometimes met with in those natives who are large consumers of oily compounds—notably in well-to-do Bengalees, who also partake largely of rice and sweets; but general obesity has hitherto been, in them, the ordinary result of such living. Not having been given in the past to alcoholic drinks, their livers have remained as a rule unaffected by any serious disorder. Now, liver disease is becoming more common amongst them. It is note-worthy that European ladies in India are, speaking generally, free (like the native females) from hepatic abscess. In my own experience I have found my countrywomen, with rare exceptions, exceedingly abstemious.

To return to the effect of alcohol upon the ventricles. It has hitherto been supposed that fatty degeneration was the usual form of heart disease in alcoholists; and, doubtless, in cases of ventricular thinning, this condition is often co-existent, but not always. In the cases to which I allude there was *only* thinning, without anything apparently to account for it. I did not at the time, not having specially studied the effects of alcohol upon the various organs, attribute it to this agent, although I knew that the sufferers—one indeed was a woman in advanced life—were confirmed tipplers;—living, for the most part, in the back slums of Calcutta, and dividing their time between the Jezebels of the city and the rum bottle. But, on seeing an account of the discussions that ensued upon the reading of Sir A. Clark's paper on heart disease, I at once referred to these cases, and to others of the same kind which I have met with in India. And I am convinced that the thinning of the ventricles was due, as Dr. Clifford Allbutt has surmised, to prolonged indulgence in alcohol.

It may be urged that, after all, the condition is only interesting from a pathological point of view, and that it has no practical bearing. But, considering that the one condition—fatty degeneration—is probably hopeless, whilst the other, if the individual will abstain from alcohol altogether and adopt the measures likely to induce a conservative hypertrophy, may end in recovery, it seems worth while to endeavour to diagnose, in life, between the two. The subject of fatty degeneration of the heart has indications, probably, of this degeneration elsewhere,—one of which may frequently be seen in the “arcus senilis.” In the absence of such evidence we may reasonably hope, when con-

fronted with a case of dilatation, that, *cæteris paribus*, there is *only* thinning of the ventricle. And may we not warn the intemperate, and all who advocate moderate drinking, that this is yet another of the pathological results to which indulgence in alcohol may lead,—ending, possibly, in a death as sudden as it is unexpected? The symptoms of dilatation are not always early apparent; and the condition, and cause (the ventricular thinning,) may go on progressing for a long time undetected. But it is rare for the alcoholist to be altogether free from symptoms of *some* kind; and it will always be well, therefore, when he complains, to examine his heart.

This particular effect of alcohol upon the ventricles of the heart naturally induces an inquiry into its action upon muscular tissues, generally. Its effect in debilitating muscle has been demonstrated by Dr. B. W. Richardson in his experiment upon the frog: and probably most quondam drinkers who have become abstainers would testify to the fact of their locomotive powers—in going up-hill especially—being greater now than then. This is, of course, due to a return of nervous vigour which would influence mind and body generally.

The action of alcohol in causing congestion and thus laying the foundation of further disease; in promoting for the time an increase of secretion and catarrh of a part lined by mucous membrane, with thickening of the latter—in large beer drinkers this membrane is sometimes found thinned in, with enlargement of, the stomach; in desiccating and *thickening* some structures and in inducing degenerative changes in others;—these and other effects of this agent are familiar enough. But I am not aware that *thinning* of *muscular* organs has been, hitherto, recognized as a result of alcoholic excess. I bring the subject forward, more in view to its being investigated and discussed than to authoritatively laying it down as a law, that thinning of muscular fibre is an *ordinary* consequence of indulgence in alcohol. That it is a *likely* consequence of impaired nutrition (which follows the excessive use of this drink) may, I venture to think, be admitted. Dr. F. R. Lees informs me that, on one occasion, when he was showing the action of alcohol on the stomach (of a man who had been drowned whilst drunk) seen by means of transmitted light, this effect was distinctly visible. And if once, why not again? Further, would the uterus be similarly affected? Or the muscular coat of the arteries? The importance of these inquiries cannot, I think, be over-estimated.



EXPERIMENTS ON ALCOHOL AS A SEPTIC AGENT.*

By J. J. RIDGE, M.D., B.S. Lond.

THE title of my communication will naturally seem somewhat strange. Alcohol has been long recognised as an antiseptic, and it is such beyond question; it destroys life, it preserves animal and vegetable substances from putrefaction; it arrests the action of vital ferments; it retards growth and vital functions in quantities insufficient to destroy them completely.

It has been generally supposed hitherto that, while large percentages of alcohol have this effect, very small percentages are inert. It was by an accidental observation some years ago that I found this latter idea to be incorrect. I was trying the effect of small quantities of alcohol on tadpoles which were kept in large glass globes, and these were in one case fed with small pieces of meat. I found that the water in the globes containing a very little alcohol became cloudy from the multiplication of bacteria more quickly than the globe containing water only. I followed up this experiment by trying various materials, animal and vegetable, including Pasteur's fluid; and I obtained nearly similar results. I have refrained from bringing this matter forward before because I have hoped from year to year to have been able to follow it up by testing the effect of alcohol on the cultivation of bacilli; but my engagements have prevented this and seem likely to continue to do so, and hence I have resolved to publish the observations in the hope that others may carry them farther.

I have brought as an illustration of this effect of alcohol, a series of glass tubes containing an equal quantity of weak hay infusion which was made just three days ago. One glass contains one *per cent.* of absolute alcohol; the next contains one-half *per cent.*; the next, one-tenth *per cent.*, or one drop in about a wine-glassful of water; the next, one-twentieth *per cent.*, one drop in about a quarter of a pint of water; and the last, no alcohol at all. I have found that the bacteria multiply in the simple water and in that containing one *per cent.* of alcohol at about the same rate. More than one *per cent.* begins to retard the growth; with less than one *per cent.* it goes on more merrily, and the quantity which seems most favourable is about one-quarter to one-half *per cent.*, this being shown by the greater opacity of the column of fluid.

I have not investigated all the various organisms which are

* Read at the Annual Meeting of the British Medical Temperance Association, Tuesday, May 24, 1887.

thus stimulated and thrive more vigorously in the presence of minute quantities of alcohol. The *bacterium termo* is undoubtedly most largely represented, and is always found in the presence of decaying matter.

The interesting question arises—Does alcohol act as a food for these living particles? It seems to me scarcely possible that the infinitesimal quantity of alcohol present in some of the glasses can account for the difference between them, because the drop or two present would be only a very small part of all the nutriment, and therefore not sufficient.

I think that the alcohol must act as a stimulant to the vital and reproductive functions of these minute organisms, which undoubtedly contain a special kind of protoplasm.

Here I must ask you to remember that I have previously demonstrated that living constructive protoplasm, that which every living cell, animal and vegetable, contains as its essential part, is greatly affected by minute quantities of alcohol. I have shown that cress-seed germinates, and the young cress-plant grows, inversely to the quantity of alcohol present; that there is no quantity which stimulates the growth or multiplication of such protoplasm, and that quantities even as small as one drop in a pint of water are sufficient to hinder the growth of cress continuously exposed to it.

The observation to which I now call your attention seems at first sight to contradict my cress experiments. But I venture to broach a theory which harmonizes these two results.

Bacteria of decomposition multiply and thrive only in the presence of dead matter. Living cells and tissues have the power of resisting their influence. That which promotes the vitality of the one may very well hinder the vitality of the other. The protoplasm of the higher cells and organisms is constructive, the protoplasm of bacteria is destructive. We may say, then, that alcohol injures constructive protoplasm, and stimulates destructive protoplasm. In other words alcohol hinders construction and promotes destruction.

If further investigation should show that the bacilli of fever and disease are also stimulated by small quantities of alcohol it will tend to explain the greater liability of drinkers of alcohol to those fevers and diseases which modern investigators have attributed to the multiplication of bacilli, and also why such cases which are treated without alcohol have a better chance of recovery.



ACUTE DILATATION OF THE HEART DUE TO ALCOHOLISM.*

By WALTER PEARCE, M.D., B.S., B.Sc. (Lond.), M.R.C.P.,

Physician to Out-Patients, St. Mary's Hospital, London.

THE acute effects of alcoholism show themselves more especially in the nervous and circulatory systems, and one would expect therefore that any acute pathological changes produced by alcoholism would also be found in those systems. Such changes in the nervous system are well known, but they are not so commonly observed in the circulatory system. I therefore venture to bring before the Association a case illustrating an acute change in the heart produced by alcoholism.

A. B., aged 23, an engine cleaner on the G. W. R. Co., was admitted as an out-patient at St. Mary's Hospital, on February 18, 1887, complaining of weakness and swelling in the legs, nervousness and sleeplessness. The patient had always been well and enjoyed good health until six weeks ago, when he lost his employment, and had since then lived on the generosity of his fellow-workmen. The weakness had come on during the week before admission.

The face was very pale, and pasty looking, but not œdematous; the lips were blueish. The body was well nourished, but there were fine tremors in the hands, and a feebleness in gait, not characteristic of alcoholic intoxication; the patient admitted that he was addicted to drinking, but appeared to be sober in the general sense of the term. There had been no excessive tobacco smoking. Œdema of the legs extended upwards as far as the knees, but not in the arms. The abdomen was distended chiefly with flatus, but also contained a small quantity of fluid.

The pulse was exceedingly rapid, small and short, both irregular in time and in force, and of very low tension; at the first observation it was beating 160 times a minute, and subsequently fell to 140. The heart's impulse was diffused, and the apex beat was found in the 5th interspace, half an inch outside the nipple line; epigastric pulsation was excessive. There was no venous pulsation in the neck. The deep cardiac dulness in the parasternal line commenced at the 2nd costal interspace, while the transverse dulness at the level of the 4th costal cartilage extended from an inch to half an inch beyond the right sternal line.

At the left of the apex: the first sound of the heart was short

* Read at the Annual Meeting of the British Medical Temperance Association, May 24, 1887.

and clicky ; the second sound was sharp but weak, and followed the first at a prolonged interval, so as to give the characteristic "tic tac" of the watch, with equal intervals between the sounds.

The second sound was, as is normal, more marked at the pulmonary than at the aortic area, but yet not accentuated. At the junction of the 4th right costal cartilage with the sternum, there was heard a faint soft blowing systolic murmur, not obscuring the first sound, heard best at this point, conducted downwards towards the zyphoid cartilage, and upwards but very slightly, and also heard for about an inch to the right of the sternal line.

There was considerable dyspnœa with panting respiration, but no abnormal auscultatory signs over the lungs. The temperature was normal. The tongue was tremulous, dry, and coated with a slight white fur ; and there had been morning vomiting, and there was some tenderness over the hepatic region, but no enlargement of either liver or spleen could be detected.

The urine it was stated was passed freely, but no estimation of its quantity could be made. It was of a pale yellow colour, specific gravity 1003, and contained no albumen or sugar.

A diagnosis was made of dilatation of the heart affecting both right and left ventricles. The murmur described was no doubt functional, as produced at the aortic orifice. It was rather a little low in situation for an aortic murmur, but, in the absence of venous pulsation in the neck, it seemed improbable that there was any regurgitation through the tricuspid orifice.

As there was no history of previous cardiac symptoms, or of any disease likely to cause organic valvular lesion, it seemed essential to regard the dilatation as acute in its onset, and its presence accounted for the œdema of the legs and slight ascites. Such dilatation of the heart is of common occurrence in cases of granular kidney, then supervening acutely upon an amount of hypertrophy sufficient to balance the increased arterial tension. This explanation was considered in the present case, and was supported by the facts that the arterial tension was defective, and the urine was of a low specific gravity. But the pulse in cases of acute dilatation occurring as a complication of granular kidney, while it is diminished in tension, is widely different from the pulse found in the present case. It is easily compressible, but the beat is large, soon over, and "flopping" in character, while the artery is still full between the beats. This condition has been styled by Dr. Broadbent "virtual tension."

Again in the case described, even when, as will hereafter appear, the patient quite recovered from the cardiac condition, no increased tension in the pulse, but rather the reverse, was observed.

Albumen is sometimes absent from the urine in granular

kidney, but not when the heart becomes acutely dilated. It was therefore impossible that the dilatation of the heart in the case under discussion should be the result of Bright's disease.

Muscular exertion, as is well known, will cause such an acute affection of the heart, but the patient had been absolutely idle for some time.

In fine, no cause whatever for the dilatation was discovered other than alcoholism; the history and the signs of which were marked. The man was a drinker, and an excessive drinking bout, while unemployed, had terminated in the symptoms which led to his seeking relief at the hospital. Diuresis is frequent in drinkers.

There were prescribed cardiac tonics in the shape of *nux vomica*, iron and *digitalis*, and total abstinence from alcohol was ordered. The latter command he did not absolutely obey until after the first week or ten days.

On 25th February the œdema of the legs had greatly diminished, and the ascites had disappeared. The pulse was still rapid (120) but larger in volume; it showed no sign of arterial tension, and was regular in time and force. The apex of the heart now beat in the nipple line, the deep cardiac dulness did not extend more than half an inch beyond the right edge of the sternum, and the systolic murmur previously described had disappeared. The urine had still a specific gravity of 1003, and contained no albumen. There was no tremor of hands. The *digitalis* was suspended.

On 1st March, all œdema had disappeared, the cardiac apex beat was situated in the 5th space, about an inch to the sternal side of the nipple, and the deep cardiac dulness did not begin until the right border of the sternum was reached. The first sound at the apex was somewhat short, but the intervals between the sounds were of normal duration, while the pulse was of normal size and power. The urine was now of a specific gravity of 1015, and contained no albumen.

A week later the patient was discharged cured.



ALCOHOL IN PALPITATION.—In the new number of the *Asclepiad* (Longmans & Co.) Dr. Richardson has an interesting and instructive paper on the phenomena of palpitation, in which he says:—"Alcohol is much craved after, but is a deceitful ally. A little excess of it is prone of itself to excite the over-action without any other spur, and soon after it has been removed from the body it causes a depression which favours the recurrence of palpitation, under any excitement, in the most marked degree. The quantity of fluid taken should be limited in amount, and as to quality, the nearer it comes to water pure and simple the better."

Miscellaneous Communications.

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THE PATHOLOGY OF INEBRIETY.*

BY NORMAN KERR, M.D., F.L.S.

WE are here confronted by a topic of extreme difficulty and importance: the cause which being present the disease is present, which being absent the disease is absent, which being changed the disease changes.

The difficulty lies in the following circumstances. Purely nervous disturbances, with altered states of the nervous fluid and impairment of the nutrition process with changed conditions of the blood, may take place in the living subject without exhibiting any physical degradation of structure visible during life. Insanity of an incurable type may be plainly existent beyond dispute, and yet we may be able to detect no organic or other lesion. How often in such cases has the curable stage been passed without an effort at remedial treatment, because the presence of no disease was suspected. Even after death, in many cases of mental unsoundness, an examination has revealed no definite discernible lesion.

Difficult though the investigation of the pathology of inebriety may be, it is of the highest importance. For lack of accurate knowledge of the morbid conditions which antedate or are contemporaneous with the act of intemperance, many well-meant and honest attempts at its cure have failed, the presence of a diseased state of body and brain having been unrecognised, and the efforts on behalf of temperance put forth by the World, the Church, and the State, having often been unwisely designed and imperfectly executed.

Though there has hitherto been little recognition of the fact, to my

mind there is clearly either an alteration of structure or a functional disturbance of some kind, or perhaps in some cases both, antecedent or coincident with the desire for and act of intoxication. That there is a structural degradation in long-standing habitual inebriety admits of no cavil, as we shall see when we proceed to the consideration of *post-mortem* appearances; but whether any tissue changes immediately precede, or are synchronous with, the narcotic crave and impulse, we have as yet no means of knowing.

There is, however, a pathological state, probably there are various pathological states, on which this desire depends. If this pathological basis of inebriety be removed by appropriate treatment, the desire ceases. The exact nature of this physical antecedent or coincident we cannot yet determine, though there is undoubtedly a failing reproduction of that nervous force which is essential to healthy brain life; but of its existence I do not see how there can be any reasonable doubt.

Every sensation has a physical antecedent or accompaniment, with which it is in close relationship, the relation being that of proximate cause and effect. The sensations of hunger and thirst are preceded or accompanied by a certain bodily state, the intensity of the appetite for food and drink varying in degree with the actual condition of the body. The desire for food is the expression of a physical need caused by the waste demanding the repair of tissue. The longing for water is the expression of a physical want caused by loss of fluid calling for fresh supplies. In the one case, the lack of substance, and in the other case, the lack of liquid, sets up a

* Presidential Address at the Annual Meeting of the Society, for the Study of Inebriety, April 5, 1887.

physical state which is the precursor and producer of the sensations of hunger and thirst. These sensations are thus the expression of certain bodily requirements.

In health both these physical antecedent conditions are normal, but in deviations from health the feeling of hunger may be heightened or lessened, the feeling of thirst may be mitigated or intensified. In acute disease, as in a high state of fever, or in chronic disease, as in diabetes, when thirst is excessive, this again is but the expression of altered physical conditions. The bodily states antecedent to the sensations of hunger and thirst, and to other natural feelings, are in good health called physiological, in bad health pathological, conditions.

Except when intoxicants are drunk for social or fashionable reasons, why do men and women partake of any intoxicating agent? They do so either to gratify some inward desire for the acceptable, though fleeting, pleasurable sensation which follows the use of such substances, or they are impelled by some strong impulse from within to indulge in some narcotic (whether they like or dislike it) which will yield relief for the moment. In the former instance the act of drinking is voluntary, in the latter it is involuntary.

What are known as "moderate" drinkers, belong, at least so long as they practise "moderation," to the voluntary class. With them drinking for a time is largely a matter of habit; but unhappily considerable numbers are possessed of constitutions which are, by some inborn or acquired idiosyncrasy, so susceptible to the narcotic influence of alcohol or other anæsthetic, that the habit lays the foundation of a diseased condition of body and brain, the victim quietly, unknowingly, yet surely, passing from the voluntary to the involuntary class.

Involuntary drinking is characterised by an impulse from within, excited to activity by internal or external stimuli. This intoxicant drink-impulse has as clearly an antecedent physical condition as has the unintoxicant drink-impulse or the desire to eat. The impulse to eat food, and the im-

pulse to drink water, are natural. The impulse to drink intoxicants, or to eat or smoke opium, is not natural, and does not exist in a perfectly healthy state. By perfectly healthy, I mean a constitution wholly free from abnormal heredities, as well as from any present physical or mental disturbance or departure from sound health. This overpowering narcotic-impulse is the result of a disordered state of the nervous centres, or morbid condition of nerve-element roused to action either by some organic or other excitation from within, or by some provocative from without. Here is emphatically a pathological antecedent, a prior morbid condition.

Again, look at the voluntary alcohol drinker gradually merging into involuntary inebriety. For whatever length of time he has been able to "take it (an intoxicant) or want it," the habit has imperceptibly tightened its hold upon him till it is extremely difficult for him to refrain from intemperate indulgence. The narcotic has gradually undermined his power of control, while, by its irritant properties, it has injuriously affected the texture and functions of at least some of his vital organs. The consequences are, that his "coppers are hot," he suffers from nausea, his tongue is dry, and he is rapidly becoming "a thirsty soul," or he frequently after slight extra exertion feels a faintness or sinking. He craves for an intoxicating "pick-me-up," which soothes the craving for a short time, only alas to ensure the speedier return of the unhealthful desire. Here is an unquestionable series of pathological changes giving rise to a frequent unhealthy craving. This craving is as truly an expression of a pathological antecedent, as are the hunger and thirst of the healthy the unspoken voice of a normal physiological state.

We know the ending of these pathological changes. Who can divine their beginning? If we hark back to the first glass of intoxicating wine or beer which was drunk to please the palate, are we not confronted by a desire however faint, by a crave however slight, for the enjoyment of the effects

of a potent physical agent, a desire and a crave differing only in degree from the irresistible crave of the confirmed inebriate? Are we not face to face with a not-natural longing begotten of a certain physical antecedent or co-incident of a corporeal man? The wish to taste an intoxicant for the pleasurable sensation the wisher feels it will ensure, has as truly its rise in a preceding or accompanying bodily state as has healthy appetite for food and for natural drink.

What is this pathological basis, the proximate cause of the crave for intoxication? In some cases this crave is the inarticulate cry of a despondent soul for a temporary solace of its woe. Out of the depths of misery comes the despairing wail of a dejected spirit, ready at any peril to drain the cup of Lethe in the hope of even a few moments' oblivion of its despair. This feeling is one of extreme depression.

The most familiar example is to be seen in the reaction from an alcoholic or opiate debauch. No pen can describe, no tongue can tell, the wretchedness of the sufferer. Dismayed, appalled, a prey to apprehension, and utterly prostrate, the wretched drunkard in the depths of his despair feels that he must indulge again to lift for a second the terrible load from his being. He is in a state of complete physical depression dependent on some (even if undefinable) physical state of body, brain, and nervous system.

Profuse loss of blood is followed by a deep faintness. Repeated losses of blood are apt to cause a somewhat continuous, though less intense degree of faintness. These are conditions which not unseldom give rise to a crave for narcotisation. Females are specially liable to sink into habitual inebriety, from the temporary alleviation of their post-hæmorrhagic languor and dread by an alcoholic remedy. Though intoxicants are contra-indicated in such cases, faintness being nature's mode of arresting hæmorrhage, it is a common practice to administer alcoholic liquors freely in this disease. The patient revels in the glow of reviving life apparently fanned by the alcoholic spark. The semblance of

death vanishes, vitality and vigour seem to return, gloom gives place to mirth, despair is swallowed up in hope, the most inanimate and bloodless sufferer is deluded by the joyful presage of new life; but after a short interval, pallor creeps again over the countenance, strength fails, languor recurs, prostration advances, gloom returns, despair deepens, and the woe-begone victim succumbs once more to the false wiles of the mocking narcotic enchanter. Here the pathological antecedent of each desire for alcohol is a state of profound physical depression.

There are many persons who are possessed of a highly delicate brain and nervous system, with little cerebral inhibitory power against pain, fatigue, or distress. From this numerous class inebriety has derived no mean proportion of its recruits. To such sensitive and morbidly nervous individuals, any extraordinary call on their resisting capacity creates a feeling of actual depression. If they are seized with illness, they are sure that they must die of it. All through the attack, they look upon death as imminent, and even when danger is past it is with the utmost difficulty that the physician can persuade them that they are actually convalescent. Mental or bodily overwork, such a crisis as puberty, pregnancy or lactation, in such handicapped individualities develops an unutterable sensation of lowness, a nervine collapse, which craves for some immediate, if fleeting, relief from some intoxicant or narcotic. Here the pathological antecedent is one of indescribable physical depression.

A very strong longing for partial or complete intoxication is not invariably preceded or accompanied by physical depression, though I am inclined to believe this is so in the majority of cases. As in insanity, the immediate antecedent condition may be one of the opposite character, exaltation. By this I mean morbid exaltation when the physiological limit of natural exaltation has been passed, and there is exhibited an abnormally exalted state, dependent on a disorder of

cerebral function or on some unsettlement of the neurine, or more probably on both.

In physical depression productive of an inebriate outbreak, there is a nervous insufficiency. We are now met with a superabundance of nerve force. In the evolution of paroxysms of inebriety from a morbidly low physical state, there is an exhaustion of nervous energy. In the evolution of paroxysms of inebriety from a morbidly high physical state, there is an excessive discharge of nervous energy. Under the latter circumstances, there is an expulsion or liberation of nerve-force, as in epileptic seizures. A man or woman feels buoyed up and unusually elated, more than ordinarily talkative, playful, demonstrative and excited; in short, displaying symptoms of undue exaltation. If he has been drinking, this unwonted exhilaration would probably be ascribed to alcohol, but in many cases which I have seen the person had not partaken of an intoxicant for some time. If he drinks in this state of hyper-exaltation he drinks to excess; he cannot help it. He is carried away, body and soul, by the neurotic whirlwind which has suddenly and unexpectedly arisen within him. Here the antecedent or concomitant state is one of exaltation, and it is as clearly physical as is the antecedent or concomitant state of depression. We may credit the symptoms of elated excitement to dilatation of the arteries as in the first or exhilarative stage of alcoholic intoxication, but this again is possibly due to a pathological perversion of brain life affecting the vaso-motor nerves. In all probability both the cells of the brain and the cerebral function are morbidly affected. In any case, this prior state of exaltation is unmistakably physical. It is thus manifest that pathological states of depression and exaltation are met with as the proximate cause of outbreaks of inebriety. I have no doubt that there are other functional, and perhaps structural perversions, which are at times the antecedent or co-incident. Any morbid alteration of the cerebral

substance, any impairment of the nutrition of the brain by abnormal action of any organ or tissue on the circulatory fluid, any disordered function, may be the immediate pathological basis of the attack. This physical antecedent or concurrent may truly be described as a pre-paroxysmal pathological antecedent.

Having investigated the pathology of the paroxysm, we have next before us the pathology of the diathesis.

We often see an explosion of inebriety as we often see an epileptic explosion, but in inebriety as in epileptic mania there are causes predisposing to an attack, as well as external causes which excite, and an internal proximate pathological cause which inaugurates, the attack. Unless the encephalon and nervous fluid, by some transmitted or acquired influences, are responsive to the exciting cause, the inebriate storm may exhaust itself, and leave the patient apparently without having inflicted on him any structural damage, the origin probably of the aphorism "drunk once a month not so injurious as steady drinking every day." I say "apparently" for it is not absolutely true that no textural injury follows occasional or periodic lunar intoxication. Acts of drunkenness frequently repeated tend to set up a gradual series of pathological changes, which in the long run become crystallised into permanence. The most evanescent attacks are those which take their origin from functional derangement. Of course I refer to attacks of inebriety or narcomania, viz., a powerful morbid desire for inebriation. As soon as functional order has been restored, the crave for the inebriant ceases. Yet during the brief period of inebriism there has been an altered state of the blood and of the blood-vessels. The whole circulatory system has been riotous and disorderly. The vessels have been dilated by paralysis of the vaso-motor nerves, the action of the heart has been tumultuous, the nervous fluid has been thrown into a state of commotion, cerebral action has been vitiated, and the cell-life of the brain has been

rudely disturbed. In an otherwise healthy organism the immediate lesions may by the recuperative vigour of the nutritive and nerve processes be repaired; but a persistent succession of such temporarily diseased states of body and brain lay the foundation of chronic disorder, of permanent tissue alteration.

Exciting causes, such as sudden joy or sorrow, would be unable to provoke to inebriety in action unless there were something within the organism ready to be acted upon, as it were an inflammable entity easily fanned into a flame by a spark from without or from within. The majority of drinkers are tried by as many vicissitudes, experience as many calamities, suffer as many bereavements, undergo as great hardships, are the subject of as wasting diseases, as are the minority. Yet the former are not goaded or tempted into any kind of intoxication or narcotisation, as are the latter. Why is this? Credit may be attributed to the fortifying influences of religion, of social and other environment; but, after ample allowance for the operation of all such influences, there are large numbers of persons who, to the intelligent medical observer, are indebted for their inability to keep from narcotic indulgence in the hour of their extremity, to some inherent physical defect which renders them, on the one hand, prone to surrender to inebriety, and, on the other, powerless to resist the onset of this intensely virulent disease.

In what consists this diathesis, so potent in its operation, so subtle in its working, which has betrayed to their death so great a company of our fellow-beings? It consists in a deficient tonicity of the cerebral and central nervous system, with an accompanying defective inhibition.

All men and women are endowed with some amount of self-control. The law requires the exercise of this power from all adults except the idiotic and the insane. We are compelled by legal enactment to restrain ourselves from committing theft, destroying the property of another, taking human life, and other illegal acts. The seat of self-control is in the higher

nerve centres, and the act of self-control is the exercise of the inhibitory power.

The brain and higher nerve centres being the seat of inhibitory control, innutrition and malnutrition of cerebral and nerve tissue are apt to lower the tone and impair the efficacy of the inhibitory processes. If the brain and nerve cells are healthy, so are their functions. If the brain and nerve substance is improperly or imperfectly nourished, the will power and the power of control are heavily handicapped.

This defective inhibitory or controlling power may be (1) inherited, (2) acquired.

1. *Inherited*.—In a considerable proportion of cases of developed inebriety, the family history shows that the lack of self-control was transmitted. Self-indulgent parents who, though never actually intoxicated, have been in the daily habit of drinking freely, have originated, or it may be intensified, pre-existing inborn constitutional deficient power of inhibition, by begetting progeny, all of whom may be more or less wanting in that normal amount of self-control, with which fairly sound human beings ought to be endowed. Though alcohol is the commonest cause of this hereditary defect, yet lack of sufficient brain will and restraining power may be handed down by parents who have never tasted an alcoholic or other inebriant. This burdensome inheritance may have taken its origin simply in infraction of the ordinary laws of health, the morbid state having been gradually set up by irregular and improper feeding, mental or physical overwork, the neurasthenic sequelæ of various lowering ailments, and a life of pleasure, of mere gratification of every passing whim, void of honest effort to restrain the desires and actions with due regard to the comfort and benefit of other persons. With this defective central inhibitory power is often associated an inherited deficiency of resisting power, whereby the legatees are in great part physically at the mercy of strong morbid impulses springing from functional crises, such as puberty, maternity, visceral derange-

ment, and other disturbed physical states.

There are also transmitted perversion of function and altered structure, an unsound condition of brain and nerve cell, a physical and mental idiosyncrasy, which, in some manner as yet hardly understood, renders the possessor peculiarly liable to be excited to concrete inebriety, and peculiarly susceptible to the narcotic influence of alcohol and other intoxicating anæsthetics.

This peculiar susceptibility may extend to opium, ether, chloral, chloroform, *et hoc genus omne*, but it is more delicate in the case of alcohol than in that of any of the others. Alcohol is pre-eminently a degenerative agent, and the degenerative work is seen to be carried farther by it than by any of its congeners.

The physical temptation born of alcoholic intoxicants embraces in its range of morbid action the highest mental centres, and seems to physically taint the most delicate intellectual processes, as it dulls the senses and reduces muscular force. The pathological depravity of the cellular brain and nerve tissue, the intellectual vitiation, the feeble *morale*, may lie dormant for a lifetime, unless quickened by the interposition of an internal or external exciting cause. The inebriate diathesis may be either latent or developed. Where it is latent, all through a long life it dwells hidden and unnoticed because no appropriate provocative has intervened to disclose its existence.

2. *Acquired*.—When defective inhibition has been inherited, it may be increased by cultivation, but this deficiency of restraining power may be acquired where it has not been transmitted.

The narcotic action of alcohol and other neurotic poisons on the blood, the nervous fluid, and the material centres of intelligence, is the principal factor in the causation of that acquired loss of self-control which offers up so many a comparatively easy prey to inebriety. Apart from any of the commoner and what may be called coarser forms of alcoholic degeneration

of tissue, at times *pari passu* with these alcohol exercises a specific influence on the circulatory and nervous systems, which influence tends to break down inhibitory function.

The first stage of alcoholic action is one of exhilaration. The blood courses more quickly through the blood-vessels, the rate of the cerebral circulation is increased, the spirits are more buoyant, a glow of warmth is felt, and the face appears flushed. What has taken place pathologically? The alcohol has paralysed the vaso-motor nerves, their vigilance is relaxed, their power is for a time reduced. The check on the heart having been lessened, that organ beats with marked additional frequency. This state is one of relaxation. From the loss of power in the cardiac inhibitory centre the heart pursues its mad career, from the diminution of power in the higher inhibitory centres the affected becomes garrulous, confiding, yielding, easily pleased and ready to contribute to the pleasure of others. Each act of inebriety still further relaxes and reduces the inhibitory power. The central and local stock of inhibition, perhaps not over grand to begin with, is by long-continued and persistent withdrawal, through the daily imbibition of alcohol or any other intoxicant, gradually decreased to such an extent that little self-control remains, and the shiftless unstable victim is tossed about on the ocean of inebriate excitation like a rudderless ship in a storm.

Alcohol is a mighty waster of inhibitory force, the most effectual destroyer of the faculty of self-control. Under the action of the alcoholic narcotic poison the strength of the local inhibitory centres is also weakened, whereby the vigour of various bodily organs is impaired, thus tending to the genesis of morbid functional disturbances or exciting causes, the alcohol all the while reducing the general resisting power.

The descent is so easy as to be hardly apparent, but to recover the lost power is a formidable task indeed.

Healthy cell life is the measure of healthy function—function alike of the *mens sana* and the *corpus sanum*. Un-

healthy cell life is the measure of these functions disordered and diseased. Alcohol impairs cellular vitality, and thus, by its direct effects on the brain and nerve substance, produces pathological states of cerebral and nervous abnormality. The brain tissue is perhaps the most delicate texture in the human economy, and its functions are the most refined, the most intricate, the most varied, and the most susceptible. Alcohol is a brain poison as subtle as it is powerful. So that from the extreme delicacy of the organ, combined with the peculiar subtlety of the narcotic agent, intoxicants are specially noxious to the organ of thought, and injurious to the intellectual, volitional, and moral faculties.

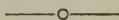
The pathological effects of alcohol on the brain and nervous system are productive of accompanying mischief to the mind and to the *morale*. The structural changes, the tissue degenerations of the human body, produced by alcoholic intoxicating drinks, are all pathological states, the ineradicable footprints of a destructive disease-producing poisoning agency.

By this degenerative process, by a long chain of morbid changes, capillary paralysis, circulatory tumult, vascular atheroma, cellular decay, membranous thickening, cerebral congestion and neuroglial proliferation, alcohol dims the perception, confuses the judgment, paralyses the will, and deadens the conscience. Perverted or imperfect

nutrition has been the starting point in this series of pathological degradations.

Nor is this all. By its destructive action on the stomach, the liver, and the kidneys, it sets up a pathological condition of organic structural alteration which impairs those digestive and depurative functions, the due performance of which is so essential to health and comfort. The depravity of the blood, the functional derangements, and the poisoned organism, engender morbid impulses and desires which crave for the delusive consolation of narcotisation. Thus doth alcohol often breed inebriety.

Whether inherited or acquired, this want of tone in the brain and nerve centres, with its accompanying defective inhibitory power, is usually preceded by a neurasthenic condition or state of nervous exhaustion. This is a well-marked pathological lesion which can in most cases be recognised by the skilled and intelligent physician. In this inchoate stage of the disease there is a real departure from health, a truly diseased condition of the higher, if not the lower, nerve centres. Inebriety, once developed, pursues its course influenced by environment, by meteorological and climatic conditions, and by other modifying forces which affect the nervous fluid. It is a disease subject to natural laws, an accurate knowledge of which would render the treatment a comparatively easy task.



THE DALRYMPLE HOME FOR INEBRIATES.

IN the third annual report of the Homes for Inebriates' Association, the Committee state that of the eighty-five patients discharged from the Home, sixty-nine have been heard from. Of these thirty-six are doing well, or 55 per cent. This is a measure of success which the most sanguine never dreamt of. The number in this category would have been much larger but for the extraordinary

blindness of most of the friends of the discharged inebriate, who will not acknowledge that he is a diseased individual, and that he ought never to taste even a sip of his intoxicating bane. Were the physical aspect of inebriety recognised, the difficulties in the way of a reformed inebriate's steadfastness would be enormously lessened. The Committee are glad to be able to state that of the 103 admis-

sions, no fewer than thirty-five have entered for the full legal period of twelve months, eighteen having surrendered their freedom under the provisions of the Habitual Drunkards Act, and seventeen having applied to be admitted as private patients. Were the law altered to dispense with the appearance of the inebriate before justices, as in America and some of our Colonies, or even if attestation of the applicant's signature were by one justice only, many more patients would seek to be admitted under the Act. The Committee feel bound to give expression to their appreciation of the intelligent and painstaking conduct of the Home by the medical superintendent, Mr. Welsh Branthwaite, who has been well supported in his delicate and responsible work by Mrs. Branthwaite and the efficient abstaining staff.

REPORT OF MEDICAL SUPERINTENDENT
FOR YEAR ENDING JANUARY 31ST,
1887.

GENTLEMEN,—The pleasing duty again devolves upon me of respectfully submitting to your notice the report of another year's practical work, and at the same time I rejoice in being able to congratulate you upon the close of a period of steady and regular effort, marked by constant progress, and, under Divine guidance, full of promise for future good. Considering the lapse of time to be of the utmost importance in judging results, I have hesitated hitherto to place them in anything like definite form; but now that two or even three years have elapsed since some of the earlier patients have left, I feel perfectly justified in adding the subjoined carefully compiled table of eighty-five cases that have been discharged since the opening of our Home. During the past year I have been often cheered and encouraged by letters and visits from old patients, who are doing well, and who are grateful for the assistance and treatment which have enabled them to overcome their desire for drink. Some of these are now occupying responsible positions in the clerical, medical, and legal profes-

sions, and others also in business are useful members of society. A certain number of patients (with the exception of one letter of thanks after leaving) I have not heard from, and consequently can have no idea of their present condition. Some have gone abroad, and the difficulty of tracing them is great. Others, considering the competition in all conditions of life, and assuming that any knowledge of their having had at any time to take refuge in a retreat would materially affect their future prospects, have left us with the avowed intention of blotting out, as if it had not been, such a period in their existence. Others may not have communicated because they had no good to report. With regard to these unsatisfactory cases, when it is remembered how long many have been drinking heavily (fifteen or twenty years in some cases) before they have come under treatment, how liquor-soaked their every organ is, how impregnated and altered by alcohol every tissue and fibre has become, and how incomplete the existing legislation for restraint is, the wonder will be that the cures are so many. There are those who seem to expect the habit and condition of a life-time to be changed in three or four months, but this is an unreasonable expectation. I am of opinion that very few are hopeless cases, if they will only give themselves time. A period adequate to confirm a cure is the key to the whole question. At least twelve months' residence in a Retreat ought to be aimed at in most cases.

With the exception of the month of June (when there was some delay in getting intending patients to enter as soon as each vacancy occurred) the Home has been quite full. Four patients who were in at the commencement of the year have remained until the end, and others a greater part of it, so that facilities for taking fresh patients have been somewhat restricted. Twenty-five have been admitted, and the same number discharged, eighteen remaining under treatment. Of the admissions eleven entered under the Habitual Drun-

kards Act and fourteen privately. Of patients under the Act, six entered for twelve months, one for nine, one for six, and three for three months. Of private patients, three entered for twelve, two for nine, two for six, two for four, and five for three months, some of these, however, staying longer than they originally intended. One patient, admitted during the year, was a medical practitioner, one clerk in holy orders, one retired military officer, one retired civil servant, one tutor, four clerks, one chartered accountant, three merchants, one engineer, one officer marine merchant service, one publisher, one estate agent, one farmer, and seven gentlemen of no occupation.

Eighteen were regular drinkers, and seven periodical. The twenty-five discharges were all from efflux of time.

Adding the numbers published last year, eighty-five have been discharged. Of these thirty-six are doing well, two improved, twenty-seven not improved, one is insane, three are dead, and sixteen not heard from. With the exception of one severe illness associated with gout, and one of hæmorrhage and other troublesome symptoms in conjunction with cirrhosis of the liver, the general health of patients has been good. There has been no case of delirium tremens.

Heredity still maintains its position as a predisposing cause, occurring in seven out of the twenty-five cases last admitted. Taking the total number of one hundred and three, since the opening of the Home, we have twenty-three clear cases of inherited tendency from an inebriate father, mother, or grandparents, and twenty others with a family history of inebriety in uncles or brothers, showing the presence of distinct taint in forty-three cases, or forty-one per cent. of the whole number. Insanity, as a predisposing cause, is well defined in one case last year, or in nine of the total number admitted. In addition, we have a number that are difficult to classify—from imperfect information and uncertainty—of some nervous affection in father or mother, amongst which are cases

of paralysis, hysteria, neuralgia, and allied neuroses. In six clear cases and several ill-defined, heavy drinking has closely followed severe injury, generally a blow on the head or spine. The remaining predisposing or exciting causes are classed as nerve-shock from mental worry or overwork, influence of occupation and sociability.

All patients who enter the Home have to comply with the same rules and regulations in force at the time. This applies to private patients, as well as those under the Habitual Drunkards Act. Many applicants for admission, although anxious to avail themselves of the provisions of this Act, have absolutely refused to undergo the ordeal of signature before two justices, especially when, as happened in some of my own cases, it had to be done in open court. It appears to me that everything should be done to make the road to the Home as easy as possible. With regular Government visitation and ample facilities for appeal, no danger of ill-usage or abuse of the Act could possibly occur. Those who have strenuously objected to attestation before Justices have been taken as private patients, and amongst them have been some of my best cases. It seems unfair, therefore, that—in the public press notices following the issue of the Government Inspector's Report in October, 1886—no notice should be taken of this class, which would more than double, probably treble, the published number of patients in retreats. I have drawn your attention to this because it is liable to give rise to a belief that few avail themselves of the opportunities afforded them; whereas, on the contrary, I still have many more applicants than can possibly be accommodated.

Having such valuable opportunities at hand, I have given in considerable quantities the various drugs that have from time to time come to the front as so-called cures. Unfortunately, I must reluctantly confess that they have not, in my hands, been marked by any great success; but red bark, strychnine, quinine, capsicum, &c.,

as adjuncts to the treatment are invaluable. The course adopted is in all cases to cut off intoxicants at once, and sustain the vital powers for the first few days by carefully regulated, nourishing, but easily assimilated diet, and when undoubtedly indicated for the relief of the peculiar nervous and excitable condition of some patients, the administration of sedatives; but I believe their indiscriminate use to be morally and physically injurious. Following that, the exhibition of nerve tonics and any other drug that may be specially required to restore the body to its normal condition. Afterwards all remedial measures are greatly assisted by wholesome exercise of body and mind in the treatment of the diseased condition. We must provide amusements of every kind, and above all encourage patients to work, stimulate inertia, resist every kind of perverted feeling, and as far as possible check morbid influences. Then by the continued exercise of moral and religious influences we may hope to be able to restore a still greater number of our patients to their homes permanently cured.

By inculcating this principle during the last year many of the patients have taken up occupations, with which they have almost entirely filled their time, and a great deal of useful work has been done. The advisability of still further increasing our resources in this direction requires earnest consideration.

Meteorological observations have been taken throughout the year, and a report regularly transmitted to the Royal Meteorological Society. This branch of scientific research is not only useful as an additional employment and interest to the inmates of the institution, but also may ultimately, by noting the depressing effect produced by some conditions of the atmosphere, prove of practical value in treatment.

I have cordially to thank those of our friends who have from time to time given their valuable assistance in concerts and dramatic entertainments for our amusement during the winter evenings, and to again assure

them that their kindness has in all cases been thoroughly appreciated.

In conclusion, I beg to tender my sincere acknowledgments to Dr. Norman Kerr and the members of the House Committee generally, for the uniform kindness and consideration I have always received from them, and for assistance and advice cheerfully given.

I am, Gentlemen,
Your obedient Servant,
R. WELSH BRANTHWAITE.

PARTICULARS OF CASES ADMITTED
BETWEEN JAN. 31ST, 1886, AND
JAN. 31ST, 1887.

Admissions :—

Patients under the Act...	...	11
Private Patients	...	14
Total	...	25

Occupation :—

Medical Practitioner	...	1
Clerk in Holy Orders	...	1
Retired Military Officer	...	1
Retired Civil Service	...	1
Tutor	...	1
Clerks	...	4
Accountant	...	1
Engineer	...	1
Marine Engineers	...	3
Merchants	...	5
Farmer	...	1
Publisher	...	1
Estate Agent	...	1
Gentlemen of no occupation	...	7
Total	...	29

Religion :—

Protestant	...	25
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Drinking Habits :—

Regular	...	18
Periodical	...	7
Total	...	25

Associate Habits :—

Tobacco	...	25
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Previous Residence :—

England :—		
London	...	9
Provincial	...	12
Scotland	...	2
Ireland	...	1
India	...	1
Total	...	25

Family History:—

Insanity in 1 case

Inebriety:—

Father or mother (in
two cases combined
with history of in-
ebriety in brother or
uncles) in 8 cases

Grand-parents in 1 „

Brothers in 1 case

Uncles... .. in 2 „

No history of inebriety
or insanity obtain-

able in 17 „

Total ... 29

Discharges:—

Efflux of Time 25

—O—

THE TREATMENT OF FEMALE INEBRIATES.*

By NORMAN KERR, M.D., F.L.S.

It is a remarkable fact that while there is no provision in the United Kingdom for the treatment in special Homes of destitute male drunkards, or male drunkards of limited means, there are more than a dozen homes where female drunkards are received, either for a small payment or for no payment at all. This is but one proof of the appalling fact that intemperance among women is rapidly gaining on the intemperance of the "lords of creation." Year by year the proportion of female to male inebriates has steadily increased. Intemperance among men is decreasing, thanks to the growing influence of the beneficent temperance reform, the increasing spread of the principles of abstinence and prohibition; but, alas! the fair sex are becoming more drunken, and, if the recent rate of progress downwards continue, will ere long once more assert their supremacy over man by contributing more than their proportionate share to the inebriety of Britain. Even so conservative and apathetic a body as the House of Lords has been so moved as to direct attention to the increasing alcoholic excess of women constituting a new and alarming danger. Well may the peers utter this timely note of warning. The drunkenness of a woman is a still more saddening spectacle than the intoxication of a man; but the peril to the nation's health and morality is infi-

nitely greater. As the mother generally wields a more powerful influence than the father over their children, a tipping mother is indeed a dire disaster. And, as on the mental and physical soundness of English womanhood the character and disposition of our future children largely depends, the increasing intemperance of our women involves a fearful tale of aggravated susceptibility to alcoholic excess, and of diminished power to resist this heightened susceptibility on the part of coming generations. This prospective accumulating tendency to drunkenness is all the more imminent, that already there are more cases of chronic police-court drunkards among females than among males. Add to all these considerations that the drinking mother vitiates the blood and saps the strength of the innocent infant at her breast by poisoning the wells of her maternal nourishment, by polluting the very springs of life of the helpless babe whom she would not designedly hurt, and for whom she would be willing to lay down her life.

The commonwealth is in danger, but the nation is blind to its peril.

The injury to the drunkard herself is terrible. Cleanliness, truth, honour, affection, duty, are all offered up at the shrine of Bacchus. Weary, wasted, and worn, wretched in spirit, broken in heart, ruined in soul, a waif on the ocean of human life, tossed on the tempestuous and furious sea of inebriety, she has made shipwreck of all that is beautiful, and true, and good.

For her own sake, for her family's

* Paper read by request at the Conference of Reformatory and Refuge Union, at Liverpool, 9th June, 1887.

sake, for the country's sake, is there no hope for such? The world replies "No," and passes unheeding by. The Church preaches that as long as there is life there is hope for every sinner, but practically deals only in rebuke and denunciation. The State says neither "Yes" nor "No," and treats her as a hardened and incurable criminal with a cell, bread, and water.

But there is hope for her; she is not beyond redemption. A new era has dawned for the inebriate. In the past, so few female inebriates have been permanently reformed, that many good men believe such an event an impossibility in a woman. The cause of former failure has been ignorance. As the lunatic was at one time declared by learned theologians to be possessed of a devil by way of punishment for her sins, so has the inebriate been preached at from a thousand pulpits as given over to demoniac drunkenness, the unavoidable penalty of moral depravity and of a vicious disposition. This may or may not be true of a small minority of mad women and toppers, but modern science has shown that in both insanity and inebriety there is frequently a diseased condition, a departure from bodily and mental health, a disorder of the physical system, of organ, and of function.

Here is the auspicious omen for the poor battered, despised, demoralised female victim of alcohol. The Society for the Study of Inebriety, of which I have the honour to be president, is hard at work in the investigation of the diseased states productive of inebriety, and has already done something in enlightening the public mind on the undoubtedly abnormally morbid conditions favourable to inebriated manifestations. The philosophic profession of medicine has expounded the great truth that there is a physical aspect of intemperance, the operation of unhealthy influences, of transmitted tendencies to intoxication, of inborn feebleness of resisting power, of innate weakness of will, of inherited susceptibilities to the fell and deceptive power of narcotics. The Christian and the philanthropist have learnt from the physician that female in-

ebriates *can* be cured, that they have a body as well as a soul, a casket as well as a jewel, and that no dimness can ever destroy, though it may obscure the lustre of, the gem of divine life within.

The burdensome weight of alcoholic heredity crushes many a woman to earth. No law is more marked, none more inexorable. There are not a few brave souls who, though they have successfully lived a life of abstinence, have achieved this only by a gallant and persistent struggle during the whole term of their sojourn on earth. Other disordered bodily states, nervous shock—such as sudden bereavement or worldly ruin, injuries to the head, and other injuries—have all acted as causes exciting to a paroxysm of inebriety in constitutions with an alcoholic transmitted inebriate predisposition.

The first condition of cure and reformation is abstinence. The patient is being poisoned, and the poisoning must be stopped. Were it arsenic instead of alcohol, no one would dispute this. So long as the drinking of intoxicants is indulged in, so long will the bodily, mental and moral, mischief be intensified and made more permanent. The abstinence must be absolute. On no plea of fashion, of physic, or of religion, ought the smallest quantity of an intoxicant be put to the lips of the alcohol slave. Alcohol is a material chemical narcotic poison, and a mere sip has, even in the most solemn circumstances, been known to relight in the fiercest intensity the drink-crave which for a long period of years has lain dormant and unfelt.

The second condition of cure is employment. Idleness is the foster-mother of drunkenness; industry is the bulwark of temperance. Let the mind of the penitent inebriate be kept occupied by attention to regular work, and the task of reformation will be shorn of half its difficulty.

The third condition of cure is to ascertain the predisposing and exciting causes of the inebriety, and to endeavour to remove these causes. For example, a female has glided insensibly into the slavery of drink by resorting to alcohol for the relief of agonising

pain. Find out the cause of this pain, remedy it, and you have lightened your rescue work enormously. Or again, if hysteria or epilepsy has been the provocative, rectify the unhealthy state, and the crave for relief from the torpor-yielding properties of a narcotic ceases.

The fourth condition of cure is to restore the physical and mental tone. This can be done by appropriate medical treatment, by fresh air and exercise, by nourishing and digestible food, to reconstruct healthy body tissue and brain cell, aided by intellectual and educational influences.

The fifth condition of cure is the strengthening of the moral control, so that even if the system be not perfectly restored to health and vigour, the morbid unhealthy crave and impulse to intoxication may be resisted with success. Here the purifying, elevating, invigorating influence of pure and undefiled religious principle has a noble mission, second only to its still higher and holier office of conversion. Speaking simply as a physician, the hallowed influence of genuine spiritual self-surrender, the blessed calm of a regenerated heart, the comforting assurance of Divine aid, are the most potent strengtheners of a feeble individuality.

The length of time required to effect a cure varies with the peculiarities of the case. A very few are cured in a short time, the majority require from one to three years' treatment, and some are so (humanly speaking) incurable that permanent restraint is the only apparent safety to themselves and to others.

The question remains, Where should the female inebriate be treated? If taken in time, at an early stage of the disease, the female inebriate can be treated at home. I have seen a very few successful cases. But generally the drinking habit has been of long standing, often secret and unknown to the friends, and it is important to take the victim away from her inebriate associations, from her cunningly-devised methods of procuring liquor surreptitiously. For example, in one sad case in which the husband never suspected the cause of his wife's

premature death till at her death-bed this was revealed to him; the mother had taught her daughter to bring the drink into the house concealed in her muff. The weak and broken down drunkard should be sent to a genuine Home within the confines of which no intoxicant is permitted, where she can breathe an air untainted by alcohol, whence body and brain may be enabled to emerge in due time freed from the benumbing soul-destroying liquid potion in which they had been literally soaked.

Nowhere can the conditions of cure which I have enumerated be so effectually employed as in a strictly teetotal and Christian institution for the special treatment of such cases. Nowhere else can that firmness and discipline, which are such valuable aids in reformation, be so strictly enforced. Nowhere else can employment of various kinds be so effectively organised for the personal benefit of the patients, and as a means of contributing to the expense of their board and maintenance. Laundry work, sewing and needlework, are occupations which can be carried on with great advantage. More genuine Homes, with the treatment of the patients by a medical man skilled in the disease of inebriety, are urgently required; but let me venture a word of warning to those enthusiastic reformers who fancy that such Homes are likely to be self-supporting. A not inconsiderable experience has afforded no case of such an establishment having been successfully conducted without extraneous aid. For the well-to-do and rich there are institutions which not only support themselves, but return a profit to the proprietor. The destitute and impecunious, on the other hand, must be taken free or for a very small payment, and a generous annual subscription list, in addition to ample funds for the equipment of the Home, is absolutely necessary.

One great hindrance to permanent cure is the astounding fact that after a long residence in an honest teetotal Home the discharged patient will in many cases be tempted, immediately

on reaching her own home, by the fermented wine or beer placed on the dinner table. Even from the Dalrymple Home, for gentlemen, at Rickmansworth, where more than one-half of the discharged have done well, wives have been known to drink their glass of sherry in the company of their husbands within a few hours of the discharge of the latter, sometimes actually inviting the quondam inebriate patient to drink too! Not only should no one tempt the reformed to drink, but every one who has the interest of the inebriate at heart ought to set her the only safe example of abstinence from all intoxicants.

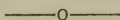
Liverpool has done well in her Vergmont Sanatorium, and recently opened Shelter, and there are excellent Homes in different parts of the country. But as to other establishments for inebriates, which are by no means satisfactory, it is necessary that great care be taken to inquire into the real character and genuineness of any such institution before leaving a patient therein.

It is melancholy to reflect that there is no licensed Home where a female inebriate, unless she is possessed of means, can surrender her liberty under the provisions of the Habitual Drunkard's Act; but let us hope that the time is not far distant when an enlightened and aroused public conscience, when a consistent and drink-divorced Christian Church will give the Legislature no peace till, as in

the Great Republic of the West, there shall be provision for the poorest inebriate who, awake to her danger and repentant of her sins, will be willing to surrender her freedom in the eager hope of deliverance from her worse than Egyptian bondage, of cure of her unspeakably terrible disease, of reinstatement in the ranks of the sober and industrious, of salvation from the power and dominion of sin.

Dr. NORMAN KERR concluded by moving:—"That this Conference rejoices at the increasing recognition of the physical aspect of inebriety, of the need for treatment of the diseased bodily condition of many female inebriates as well as of their mental moral, and spiritual declension; trusts that the Legislature will enact permanent measures for the compulsory protection of the diseased inebriate against herself and for the protection of her family and the community; and earnestly hopes that the Christian public, supported by the Government, will make ample provision for the medical, moral and religious care of the poorest female drunkard, who is willing to give up her freedom for a time and reside under discipline in a genuine special Home for Inebriates, in the hope of regaining renewed health, a useful life, and the brightest hopes for time and for eternity."

The resolution being seconded by Mrs. Bousfield (Bedford), was unanimously carried.



A YEAR'S WORK AT A HOME FOR INEBRIATES.

By HARRISON BRANTHWAITE, F.R.C.S. Ed., *Medical Superintendent.*

EARNEST temperance reformers recognise every phase of the temperance movement as having a claim upon their sympathy and support. The last phase of the question to secure recognition has been the "physical." By this I mean simply that condition which is brought about by the use of intoxicating drinks, whereby men and women step from a condition of responsibility for their acts to one of

irresponsibility. Whilst an individual is in the responsible stage, the moral arguments in favour of total abstinence are the best means to induce them to relinquish the use of that which is attended with so much danger, but when the irresponsible stage has been reached something more is needed; such a one wants a helping hand, and in his then condition demands our pity and sympathy. How much this

help is needed none know so well as those who are daily and hourly in contact with those who have become bound by the fetters of strong drink. Friends of inebriates, actuated by the very best intentions, make a very great mistake in having recourse to harsh treatment and unkind words, with the view, as they say, of bringing the poor victim of intemperance to a sense of his position. Such a line of conduct, so far from having the desired effect, is much more likely to act as an impetus in the opposite direction. The victims of this terrible disease of inebriety are, by some change in brain tissue, rendered utterly incapable of the exercise of will power. What that change is, or where it is situated in the brain, is a something for science yet to determine. That it will be so determined, and the exact locality pointed out, there can be doubt; but, whatever it is, and wherever it is, the fact remains beyond the possibility of doubt that one so affected cannot of his or her own will resist the temptation to drink; hence the need of that "something more" than moral argument. A deep consciousness of this fact, and an earnest desire to do something for these unfortunate victims, led me to relinquish private practice and open High Shot House as a home for inebriates, which was duly licensed by the Middlesex magistrates under the Habitual Drunkards Act, in November, 1885. Of the advantages of this first attempt of our Legislature to benefit the victims of the licensing laws to those who place themselves under its provisions there can be no doubt. Imperfect as the Act is in many respects, the passing of it in 1879 was a step in the right direction, and it is to be sincerely hoped that before it expires on December 31, 1889, Dr. Cameron, M.P., who has the matter in hand, will be able not only to secure the passing of a permanent measure, but also to introduce several vital amendments.

Before reviewing "A Year's Work at High Shot House," permit me, in order to support my statement as to "lost will-power" and the mistaken conduct of friends, to give the follow-

ing instances in illustration. With regard to the first—"loss of will-power"—a patient of mine, who had been daily attended in his walks and exercise for three months, was permitted to walk out alone. On the first occasion he returned perfectly right, but on the second day he came back under the influence of drink. His confession, when he became sober, was that for the first hour he felt perfectly strong, and had no thought of drinking. Then in a moment he was seized by an irresistible impulse to take one glass—only one—but, alas! that one glass aroused in him the sleeping demon. The serpent for three months had been "scotched," not killed, and, to use his own expression, after that first glass he was a different being, and "not all the devils in hell could have prevented him from getting into the condition he did." With regard to my second point—the conduct of friends—a young man was admitted by me,—and after his friend who brought him had left I took him into my private room and had a long conversation with him. My mode of treating him was so different to that to which he had been accustomed that he burst into tears, and, grasping my hand, said, "Doctor, this is the treatment I want, and I have never had it."

My year's work has been one of care and anxiety, but to compensate for this there has been happiness in the work. There has been often cause for sorrow, but there has been also cause for rejoicing.

At the beginning of 1886 I had five patients under my care. During the year twenty-seven were admitted for periods of residence varying from three to twelve months. The average age of the patients was thirty-six. These were drawn from the upper middle class of society. Nineteen were married, twelve single, and one widower. During the year sixteen were discharged at the expiration of the time for which they entered, and two were expelled for wilful violation of rules.

As far as possible I have endeavoured to keep up a correspondence with those who have left, so

that I may know something of their subsequent history. The result is gratifying, as the following extracts from letters received will testify.

1.—March 20th, 1887.—“Let me take this opportunity of thanking you most sincerely for all your kind care, and for the great interest and help you have given. I feel I can never be grateful enough for what you have done, and for having saved me from what I hardly dare think of. The year at High Shot has been well spent.”

2.—March 12th, 1887.—“Your old patient is very much better, and had he remained with you, as you advised, I am inclined to believe he would have entirely recovered; as it is, you may fairly enter him in your case-book as much benefited by his visit to your establishment.”

3.—March 9th, 1887.—“I am happy to say my son appears to me now going on all right; he has been all one could wish.”

4.—March 8th, 1887.—“I know you will be anxious to hear how I have gone on since I left you. I am glad to say well. I find I can keep straight, and my health is much better.”

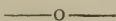
5.—March 9th, 1887.—“I wonder whether you will be surprised to hear that I am a total abstainer? I find that it is impossible for me to drink in moderation, so I wont drink at all. When I left your care I did not profess much. I only said I intended to try,

and I am trying, and now feel a great deal more confidence in myself than I ever did before.”

During the whole year we have had no illness of any description, beyond that which patients have suffered for two or three days on their admission, consequent upon the condition to which they had been brought by their own folly. This should be a sufficient answer to those who will persist in the argument that the cutting off of all intoxicants at one “fell swoop” is attended with danger. This remark applies not only to the past twelve months, but to the whole time since I opened High Shot House. *Not one case of sickness, and not one drop of intoxicating drink has ever been prescribed “as a medicine.”*

To temperance friends who may be consulted by anxious relatives upon the question of where to send an intending patient, permit me in conclusion to advise such before committing themselves to the recommendation of any particular home, to make the most searching inquiries into the mode in which it is conducted; to advise all who wish to be cured to place themselves under the provisions of the Act; and, above all, not to take the step at all, except for a period of sufficient length to secure a good result. Experience has convinced me that in a confirmed case of inebriety nothing short of twelve months holds out a hope of permanent cure.

Twickenham, Middlesex.



A MEDICAL MAYOR ON TEETOTALERS.

THE present Mayor of Stamford, Mr. John Thornton Duncan, a medical practitioner, recently took the chair at a banquet given by the Licensed Victuallers Association, at which—Mr. J. C. Lawrence, M.P., having proposed the mayor's health—the said medical mayor made a dashing onslaught upon teetotalism. The following is the mayor's speech as reported in the *Stamford and Rutland Guardian* for April 29:—

“Perhaps they would allow him to

state one of the reasons which induced him to take the chair on this occasion—it was mainly the intemperate means and the intemperate language used by the advocates of teetotalism. He might say that when he was putting up for the Town Council, some years ago, he was taxed and asked the question whether he would vote for local option. He gave them a direct negative, and he should do so again, for the simple reason that he held the poor man had as much right to his comforts

and luxuries on Sundays and other days as the rich man. There was another reason—teetotalers offered an insult to all moderate men—to all moderate drinking men. They had told them over and over again that moderate drinking men were worse than drunkards. If his friend, Mr. Lawrence, would forgive his (the mayor's) parliamentary language, he would say that is adding a lie to an insult. If they would allow him to speak as a member of the medical profession, he could assure them alcohol played a most important part in the successful treatment of many cases. He could tell them this, that in his humble opinion, as a medical man, it would be impossible to treat many cases successfully, and to pull them through most serious and dangerous illnesses without alcohol. How would they expect to pull a patient through who was suffering from the delirium of typhoid fever? Perhaps teetotalers would say, use an opiate. If ever he was suffering from that, he hoped, in Heaven's name, he might never be treated by a teetotal doctor. There was a proper use for all things. They might use quinine in certain proportions with advantage to the patient, which if augmented resulted in most unpleasant, nay, in most serious symptoms. Let them take opium. If opium was pushed to a certain point they got precisely the same symptoms as in the pushing of alcohol—detrimental symptoms. But for a man who was undergoing a large amount of worry and work, a certain amount of alcohol was an absolute necessity. He would go further still; if they took two men in his profession, one an abstainer and the other a moderate drinker, the work done by the moderate drinker would out and away surpass that of the abstainer. He held that they should use all the means they possibly could in order to bring about the greatest good to the greatest number. He had instanced one case in his own profession, allow him to instance another, which would be sufficient to prove his contention to all but that detestable set of bigots, noted for their obstinacy and pig-headedness. A celebrated

Russian oculist, Dr. Gustave Braun, not many years ago, found that the percentage of loss in operations for cataract was no less than 46 per cent. They must admit this was a terrible loss. The oculist turned and twisted about to find a remedy for this. He first tried quinine and then arsenic to no purpose. At length it struck him that he had omitted alcohol. What happened? Like a sensible man he tried alcohol, and what was the result? In a very few years the percentage was reduced to 6 per cent. He asked them, in all humility, to get away from that if they could. He (the Mayor) would take particular good care, if he should be laid up with illness, that he would have nothing to do with a Dr. Richardson.'

Stamford temperance friends were much embarrassed by this authoritative pronouncement on the part of their medical mayor, but we are happy to say that the following letters in the *Guardian* have altered the aspect of matters considerably:—

SIR,—In the *Stamford and Rutland Guardian*, of April 29, I had the pleasure of perusing the recent post-prandial speech of Mr. Duncan, the present medical mayor of Stamford. Knowing that your columns are impartially open to the discussion of any question that is raised in them, I venture to offer some observations upon Mr. Duncan's remarks, and, as a London physician, shall be in a position to criticise more freely than if a fellow-townsmen of the mayor's.

Mr. Duncan is an advocate for temperate language; this I am glad to see. His practice does not seem to conform to his precept, but the potency of the good cheer provided at the Crown Hotel has to be taken into account. Medical *confrères* will not only blush, they will at the same time see in the mayor's strong language a want of dialectical skill, and will regret to see him laid open to the retort of any of the "intemperate teetotalers" whom I conclude to exist in Stamford. Such readers will probably say that the mayor had so bad a case that he had no alternative but to "abuse the

plaintiff's attorney." Certainly any one who is moved to act as the poor drunkard's attorney is often tempted to use strong language, and it is difficult for all of us to contemplate with equanimity that social product which is manufactured by the habit of what is called moderate drinking. But in what I may say I shall hope to follow out the precepts of the mayor and not his practice.

Mr. Duncan denounces with commendable vigour "the intemperate means and the intemperate language used by the advocates of total abstinence," and he also says: "they had told them over and over again that moderate drinking men were worse than drunkards." I concur with the mayor in being utterly shocked. And I have no doubt that he is prepared with chapter and verse for so serious an accusation against the dreadful teetotalers. But, for myself, I like to see the evidence before I pronounce judgment, and I therefore ask Mr. Duncan to cite any sentence from any recognised temperance writer in which "intemperate means or intemperate language are used" or in which "moderate drinking men are described as worse than drunkards." Then again, while giving due weight to the medical opinion which Mr. Duncan has formed as to the mortality of typhoid fever and the failure of eye operations when the patients are not dosed with alcohol, I would ask for statistics. In the records of the great hospitals in London, Edinburgh, and Glasgow, we now have important masses of data accumulated on this question and those data all go to contradict the opinion which Mr. Duncan pronounces. Moreover, so clear have been the facts that the amount of alcohol now used in all our great hospitals is much less than was used ten years ago; one London hospital, moreover, has been established upon principles which exclude the use of alcohol altogether as a pharmaceutical vehicle, as an article of diet, and even as a medicine—unless in exceptional cases. The results of the work of that hospital recently published show for the 12½ years ending Dec. 31, 1885, a list of

66 cases of typhoid fever with 8 deaths and 58 recoveries, a death rate of 12·12 per cent. Curiously, in no one of these 66 cases was any alcohol used. The list gives the whole of the cases of typhoid admitted to the hospital. Now, reference to the *British Medical Journal* will show that on February 18, 1884, at the Medical Society of London, a valuable paper on typhoid fever was read by Dr. Coupland, and the statistics there given are very much less favourable than those which come out as the result of the treatment without alcohol at the London Temperance Hospital. And in the course of the discussion Dr. A. T. Myers—referring to the statistics of St. George's Hospital, where, I believe, alcohol holds its ground better than in any other hospital in London—is reported to have said: "The main feature of their 281 cases was that 69 had proved fatal, which gave the high death-rate of 24 per cent. There had been no use whatever of cold water or of strong apyretic drugs; the treatment had been by expectancy and alcohol. The alcohol had been given in large quantities; three-fifths of the patients had had at some time in their illness as much as eight ounces of brandy in the day, or more; and nearly a quarter of the whole number—adults and children—had risen gradually to as much as sixteen ounces of brandy in a day; often, however, only for periods of great danger; about 13 per cent. had had no alcohol at all."

If Mr. Duncan will give us the data for the Russian cases of cataract we shall be able to deal with them in the same way as with his opinions about the saving virtues of alcohol in typhoid fever, but till we have before us his facts in tangible shape, it would be waste of time to enter upon that topic.

There is another branch of this subject on which I think I can offer Mr. Duncan some interesting data. If you take the annual returns of the Registrar-General you may analyse the causes of about 1,000,000 deaths in each year in this country. You may learn what mortality attends the clergy, the lawyers, the doctors, the brewers, the publicans, the working

men of every class throughout the country. Now the working men between twenty-five and sixty-five years of age die at the rate of about fifteen in each year for every 1,000 living. During the three years, 1880, 1881, and 1882, where 967 men of all occupations died, 1,521 publicans died, and 2,205 publicans' servants died; whereas the maltsters—who handle only the original food material, and not necessarily the fermented alcoholic liquor—only had a mortality of 830. Again, where these 1,521 publicans died, only 701 agricultural labourers, 631 farmers, 599 gardeners, and 556 clergymen died! In fact, where 15 working men died 30 publicans died! Yet in all the elements of longevity—good food, good clothes, good lodgings, and freedom from risk of accidental injury—the publicans are much better off than the working men. Moreover, they have the advantage of liquor that they know to be unadulterated, and of having such liquor always at hand. The real fact is, that “good liquor unadulterated and always at hand,” not only outweighs all their other elements of longevity, but actually doubles their death rate. The Registrar-General (*vide* page xxxvi. Supplement to Registrar-General's 45th annual report, 1885) calls attention to these facts in our bills of mortality, and he actually writes: “The mortality of men who are directly concerned in the liquor trade is appalling.”

There is one of the great life offices in London, which was founded in 1840 by temperance people, under the belief that they would get larger bonuses if they could insure each other and keep out the moderate drinker. The office I refer to is the Temperance and General Provident Institution. In 1847, that office was induced to add to its operations a section for moderate drinkers; the Temperance Section being set aside for insurers who were total abstainers by a condition of their policy, while the General Section was that in which the moderate drinkers were taken. But the funds of each section were kept separate, so that each insurer receives such bonus-ad-

ditions to his policy as is determined by the longevity of the members of each section. Now, in the General Section, we find this fact that, for the twenty years—1866-1885—where the expected deaths were 5,431, the deaths that actually occurred were 5,284—so closely did the result come up to the margin of safety provided by the actuarial calculations. But in the Temperance Section, where the expected deaths were 3,384, only 2,408 died! Perhaps Mr. Duncan will tell us what he thinks of these facts. This great life office has been one of the most beneficial of all such institutions, for after paying down millions of money to the widows and orphans of its deceased members, it now has more than four millions of money out at interest as the property of its surviving members. If any reader will write to Thomas Cash, Esq., 1, Adelaide Place, London Bridge, and ask for the whole of the data which I have thus epitomised from this office, he will get them by return of post.

I have the honour to be, Sir,
Your obedient servant,
JAMES EDMUNDS, M.D., M.R.C.P.
Lond.
8, Grafton Street, Piccadilly,
London, April 30.

SIR,—One does not generally attach much importance to dinner speeches, especially after nine or ten toasts have been drunk, but I cannot in this instance refrain from replying to some very intemperate remarks of the Mayor (Dr. Duncan). In so doing, I shall exercise great temperance, that is, *self-control*, because the ludicrous absurdity of some of the Mayor's statements, and the incorrectness of others, would cause me otherwise to use language more forcible than polite. But it must not be supposed (as he seems to do) that all strong language is intemperate; it is often the only fit and proper language to use, and the Great Teacher Himself did not hesitate to do so. As to Local Option, I will only say that if such were the law of the land, and the inhabitants of Stamford were as wise as I hope they are, they would be spared such outrageous ex-

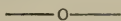
hibitions as are usual accompaniments of licensed victuallers' dinners. That abstainers charge moderate drinkers with being morally worse than drunkards is untrue: it is only affirmed that their influence on the drinking habits of the people is greater; they are decoy ducks, while the drunkard is a scarecrow. It is the respectable moderate-drinker who leads others to drink, and implants in them a taste for a drug, which is a curse to hundreds of thousands. Now alcohol might be a most useful drug, but it would neither be necessary nor desirable that everyone should take it habitually, indeed it would have all the greater effect on those sick persons not accustomed to its use. It is very certain, however, that its value as a drug has been tremendously over-estimated, and not only that, but that its common use in numbers of cases of all descriptions has taken away many a patient's chance of recovery. I have watched patients under both systems, and I have no hesitation in saying that a patient treated without alcohol has a better chance of recovery, whether his disease be slight or severe, pneumonia, typhoid fever, cholera, or delirium tremens. The experience of the London Temperance Hospital is most convincing. I went there prejudiced against non-alcoholic treatment, and found the cases do as well, and often

better, than with alcohol. As to doing professional or any other work with and without alcohol, no unprejudiced man will hesitate to decide in favour of total abstinence. Sir William Jenner told me himself, a few years ago, that he did not touch wine for weeks together when he was most hard worked, as he got through it better without. Sir W. Gull gives the same testimony. The best men in the profession agree to recommend people not to take drink till the work of the day is all done, as it will hinder and not help them. The common-sense of the matter is that the habitual use of any narcotic, whether opium, chloral, chlorodyne, ether, or alcohol, is bad, and creates a craving for whatever drug is selected. Total abstainers have, on the average, greater length of life, less sickness, and more ability to work and enjoy themselves. Their brains are clearer and their pockets fuller, and they are more fitted to attend to business (or patients) than after attending licensed victuallers' dinners.

Yours truly,

J. JAMES RIDGE,
M.D., B.S., B.A., Lond.
*Hon. Sec. British Medical Tem-
perance Association, Enfield.*

[Mr. Duncan has published no reply to these letters.]



ALCOHOL IN THE WORKHOUSE.

THE following memorial of the Workhouse Drink Reform League was presented by deputation to the West Midland Poor Law Conference held at Malvern, on Tuesday, May 17, 1887:—

GENTLEMEN,—The interest taken in the effective administration of the Poor Law by the members of this Conference, who have come from districts widely removed from each other in distance and characteristics, is a sufficient justification, if any were needed, for the introduction of a subject of deep concern to all who have either to expend or to pay the poor's

rate. A by no means insignificant part (many thousands of pounds) of the funds compulsorily contributed by the local ratepayers is annually expended upon intoxicants for the use of the pauper inmates of the workhouses of Great Britain; and as the universal testimony of chairmen of the Boards of Guardians, workhouse chaplains, masters, and medical officers, is that from 75 to 99 per cent. of the pauperism of the country finds its source in drink, it would appear nothing but just that in rate-supported institutions the utmost care should be exercised in the use of those articles

of consumption which have admittedly created the bulk of the claims upon the pockets of the ratepayers and the time of the guardians.

Unfortunately investigation reveals the fact that whilst the general tendency is to a rapid diminution in the consumption of intoxicants in workhouses—25 per cent. in ten years, and a further reduction of 25 per cent. in four years, with a larger number of inmates—there are very many workhouses where the expenditure under this head is greatly in excess of any reasonable allowance. To direct public attention to what the *Lancet* styles “the singular differences” between the practice which obtains at different workhouses in reference to the use of stimulants, and to induce the guardians to find such a remedy as their wisdom may suggest, the Workhouse Drink Reform League was started. Its objects are to secure: (a) Uniformity of practice in the administration of alcoholic stimulants at workhouses, asylums, and hospitals, by a reduction in the use of intoxicants to the lowest possible point consistent with health and life; (b) the abandonment of the supply of intoxicating liquors to guardians of the poor at the ratepayers’ expense; (c) the abolition of the drink ration for the officials of rate-supported and charitable institutions, by the substitution of a money or other equivalent.

The following figures, to which your close attention is requested, relate to workhouses in the West Midland district, and were obtained by a searching analysis of the Government Return, No. 206, “showing the quantity of spirits, wine, and malt liquors, consumed in each workhouse in England and Wales in the year ending the 31st day of December, 1885, together with the expenditure in each workhouse for each such kind of intoxicating liquor for the same period: and stating the daily average number of inmates in each workhouse during the same term;” and similar return for Scotland and Ireland.

Startling contrasts between the economy exercised at some workhouses, and the prodigality with which

costly intoxicants are disbursed at others, are therein clearly exhibited.

Comparing the average expenditure of the whole of the Unions in the West Midland area with that of other districts, it is found that the rate per head for spirits, wine and malt liquors, in the home district is higher than in either of the adjacent districts, and that it is four times as much as that of the Northern area.

Diminishing the area by comparing counties with counties, within the West Midland district, it is seen that Worcestershire, Gloucestershire, and Herefordshire, spend double as much per head of inmates of their workhouses as Salop, and three times as much as Warwickshire, and, extending the comparison, six times as much as the Northern area.

The contrasts between individual Unions is still more pronounced. Of workhouses adjacent to each other, Bristol with 971 inmates spends upon malt liquor (3s. 5½d.), five times as much per head of inmates as Barton Regis (8½d.) with 934 inmates; West Bromwich with 645 inmates, forty-two times as much per head upon all intoxicants as Dudley, 663 inmates; Clun, sixteen times as much as Ludlow. In Gloucestershire, Cheltenham runs up the cost of each pauper for intoxicants to six times as much as Thornbury. In Herefordshire, Dore spends seven times as much as Ross. In Worcestershire, Martley spends four times as much as Evesham. In Warwickshire, Shipston-on-Strour thirty-two times as much as Aston. In Salop, Wem sixty-eight times as much as Ludlow; and in Staffordshire, Burton-on-Trent one-hundred-and-ten times as much as Dudley.

Comparing the annual expenditure upon all intoxicants at single workhouses in the West Midland area with other workhouses, more surprising contrasts still are found to exist. Thus, as perhaps might be expected, Burton-on-Trent heads the West Midland list of workhouses where wasteful expenditure upon intoxicants obtains. There are more than 700 workhouses where the cost per head is less than at Burton. Of large workhouses—the ex-

penditure per head of inmates at Aston (810 inmates) is nearly double that at Dudley (633 inmates), but accepting the former as the standard of economical use of stimulants, and comparing the expenditure at larger workhouses in Warwickshire and Staffordshire, that of Birmingham (2,179) is more than eight times Aston; Wolverhampton (1,018) fourteen times as high, and Stoke (835) sixteen times higher than Aston. The six West Midland workhouses spending the largest sum annually upon intoxicants are Burton, Bristol, Cheltenham, Birmingham, West Bromwich, and Wolverhampton. Of these, the first spends upon intoxicants for its 484 paupers as much as suffices for more than 29,000 elsewhere; and the last, upon its 1,018 paupers as much as suffices for more than 26,000 elsewhere.

An occurrence of somewhat recent date in connection with the last-named workhouse, Wolverhampton, illustrates the subject of your discussion this afternoon — "Central Control." The Wolverhampton Guardians sent some of their number to visit the Pauper Lunatic Asylum, and charged the poor rate, in addition to 5s. each visitor for dinner, with the cost of a large quantity of intoxicants. The Government Auditor disallowed the charge for several bottles of champagne at 12s. per bottle, port and

sherry at 6s. per bottle, and supplies of spirits, cigars, &c.; but subsequently one of the Guardians implicated stated that when he was on Poor Law business he expected to be treated as though he were out for a holiday; and another Guardian, a publican, asserted that the winnings of the nap players of the party would more than pay the bills in question. Excessive stimulation is not encouraged by the Local Government Board, and it has been distinctly condemned by the Medical Officers' Association.

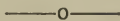
The return, which reveals the excessive consumption of intoxicants at some workhouses, shows that at many no spirits, wine, nor malt liquor is used. The successful operations of the London Temperance Hospital demonstrate that it is possible to cure disease without resorting to alcoholic stimulants, and the enclosed testimony to the advantages of the non-alcoholic system of workhouse management, from officials of institutions where no intoxicants are used, shows that the result of the stoppage of the workhouse tap has been a considerable improvement in the discipline of the house and the health of the inmates, as well as a saving to the ratepayers.

We are, yours faithfully,

WESTMINSTER, *President.*

WILLIAM WHITE, *Treasurer.*

W. C. AMERY, *Hon. Secretary.*
Birmingham, May 16, 1887.



ALCOHOLIC PARALYSIS.

At the Royal Medical and Chirurgical Society, on Tuesday, 24th May, Dr. DAVID FINLAY, B.A., read a paper on

THREE CASES OF ALCOHOLIC PARALYSIS (MULTIPLE NEURITIS).

The three patients, all married women, came under the care of the author in the Middlesex Hospital in the course of last year. The first, E. F., aged twenty-eight, a confirmed drunkard, had suffered from weakness in the knees for more than a year. To this succeeded difficulty of walking

and numbness in the hands and arms, soon followed by paralytic symptoms. In the hospital she lay helpless in bed with the legs flexed, rambled in her talk, and had delusions. The muscles of the arms and legs were much wasted, and she had double wrist-drop and foot-drop, with much pain on pressure or passive movement, and abolition of plantar and patellar reflexes. She had complete control over her bladder and rectum. Abundant large and small *râles* were heard over both lungs, and the epigastrium receded during inspiration. The liver

was enlarged. On electrical examination the muscles of the legs and arms generally showed the reaction of degeneration. The optic discs were normal. She gradually got worse, and died on the seventeenth day after admission. The urine was normal and the temperature hectic throughout. *Post-mortem*, the lungs were found to be the seat of tubercular disease, and the liver was large and fatty. On microscopic examination the cord and spinal roots were normal. All the nerves examined showed advanced degenerative changes, and the extensor carpi radialis longior muscle was crowded with connective-tissue nuclei and round cells. The second case, M. J. P., aged twenty-eight, had a history similar to the other, and the symptoms were much the same as regards the nervous system. There was less degenerative reaction, however, and less wasting. The temperature was seldom above normal. The liver was enlarged, but the lungs were not diseased. At the *post-mortem* examination the brain and its membranes appeared normal. The cord, on section, seemed somewhat atrophied in the grey matter, but no other change was noted. Under the microscope the cord did not present such a typically healthy appearance as in the former case. The greater number of the large cells in the anterior cornua were shrunken, the branching processes were less clearly defined, and many had dropped out of their places, leaving holes in the section; but these results were probably due to comparatively unsuccessful preparation. Most of the nerves examined showed similar changes to those found in the other case; but these were less strongly marked, except in the anterior tibial nerve. The spinal nerve-roots were sound. The third case, E. C., aged forty-three, resembled the other two as regards the history and many of the clinical phenomena, differing, however, in result, slowly progressive recovery having taken place. She had regained the use of her limbs, could now walk and dress herself without help, and had lost her delusions. Reflexes, however, had not

yet returned, and her feet and legs had lately become œdematous. Reference was made generally to the clinical and pathological history of the disease, and particularly to the history of the individual cases, as excluding the idea of causes other than alcoholism being concerned in the production of the symptoms. The frequent co-existence of tubercular disease was also discussed, and reference was made to a recent paper by MM. Pitres and Vailard in this connection. The paper concluded with a few remarks upon the treatment of the case which had recovered. Microscopic specimens and drawings were shown.

Dr. W. HALE WHITE thought Dr. Finlay's facts and specimens were of considerable value, as there were few so definite to be obtained elsewhere. He had found it the common rule that where the effects of alcohol were shown upon the nervous system, they were comparatively inconspicuous elsewhere; on that part of the system which was first attacked, the subsequent effects were concentrated. The effects shown in the muscles might possibly be due to the nerves, but he thought it unlikely, as he had found thickening of the skin in alcoholic patients which he did not think could be secondary. He should have expected that the bladder and rectum would be affected in more than one of the three cases.

Dr. HADDEN was glad to have noticed that Dr. Finlay had called attention to the flexion of the legs in his patients, a symptom which he had himself generally observed. He should be very glad to learn more of its cause, and the cause of the superficial tenderness which Dr. Finlay had found in common with most observers. Had he found the nerve-trunks tender? He had himself only found that rarely. Did he consider the œdema trophic? He had himself seen various conditions of the skin apparently due to trophic injury in similar cases; in one patient there were as many as three trophic eruptions rapidly following each other. Three years ago, in a case of alcoholic paralysis, he had examined the spinal cord, and found no change;

in a later case he examined the peripheral nerves, and found much the same condition of degeneration as Dr. Finlay had shown them. Lancereaux had described a slight spinal sclerosis in such cases, but had laid little stress on it. We tended at present to label all cases of multiple neuritis as alcoholic; but it was very possible that, when our knowledge was more complete, we should differentiate their causes.

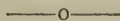
SIR DYCE DUCKWORTH had had four similar cases under his care in St. Bartholomew's Hospital during the last six months. They were all women, who were more astute than men in their statements as to alcoholic habits. From the one fatal case among them, an assistant was preparing specimens which were in essentials similar to those of Dr. Finlay. The leucocytes in the sarcolemma of the muscles, which appeared in one of Dr. Finlay's cases, he took to be a new feature. In some of his cases the nerve-trunks had been tender at first, but had grown normal after a while. One case was recovering, with the gait of a high stepping-horse. He had found the most satisfactory treatment was by quinine, strychnine, shampooing, and complete abstinence from alcohol.

Dr. ORMEROD had found the nerve-trunks sometimes tender in these cases, but not always. The tenderness of the muscles, he thought, was more constant, and due to a kind of inflammation, as evidenced by the leucocytes. He agreed in remarking the general flexion of the limbs. Some rules for prognosis were much wanted. Oetinger expected death as a rule; the English authorities did not. The mental condition was often characteristic, and helped to differentiate this neuritis. There were many varieties of delusion

or hallucination. Some patients would say they had been walking about when they had been lying in bed all the time. One out-patient, when he came to the hospital always imagined he was in some familiar market; others would tell detailed stories which had no foundation whatever. There were some analogies to this, as Dr. Claye Shaw had pointed out, in alcoholic insanity.

Mr. W. H. JESSOP had been interested in learning that in one case the optic nerve and fundus of the eye were normal, and he ventured to ask if the sight of the surviving case was normal. In France, it was the common theory that toxic amblyopia was produced by alcohol; in England, nearly every case was attributed to tobacco. It might be possible to find a good test-case in a woman who had nervous affections that were purely alcoholic. He had once before hoped to show alcoholic amblyopia in the case of a woman some time ago, but he found after all that it was due to her smoking.

Dr. FINLAY, in reply, said that the vision of his surviving patient was normal, as far as he could judge; the fundus oculi was also normal in appearance; he would make further tests for central amblyopia. The specimens he showed would agree with the hypothesis that there might be inflammation beginning in the perineurium, which contracted and killed the external nerve-fibrils. He admitted that he had no satisfactory clue as yet to the cause of the changes in the muscle which he brought under their notice. He had found superficial hyperæsthesia at first, leading on to anæsthesia. The nerve-trunks he had found tender in some cases. —*British Medical Journal*.



THE DIMINISHING USE OF ALCOHOL IN HOSPITALS. — We are glad to observe from the annual report of St. Mary's Hospital that during last year, with a total of 2,589 patients under treatment, the cost of alcohol, exclusive of spirits of wine, has decreased from £485 10s. 7d. in 1885 to £350 12s. 7d. in 1886.

PROFESSOR BUNGE ON ALCOHOL.*

AMONG the most encouraging evidences of progress in temperance sentiment on the Continent which have come under our notice is the very able lecture recently published by Herr Bunge, Professor of Physiological Chemistry in the University of Basle.

Starting with the admission, as of an established fact, that alcohol undergoes combustion in the body, and is, therefore, in some sense a source of vital force—a position which can hardly be regarded as absolutely certain—the Professor nevertheless goes on to maintain, in harmony with our best scientific authorities, that “if alcohol increases the supply of heat, it increases also the expenditure of it. The latter side preponderates; the net result is a diminution of temperature, as has been established by numerous experiments with the thermometer.” The reason of this increased expenditure of heat is correctly given in the succeeding paragraph, and our author emphatically sums up this part of the subject with the dictum that all the effects of alcohol which are commonly described as stimulation, are in reality only indications of its paralysing action (*Lähmungserscheinungen*).

We may, perhaps, venture to call in question the strict accuracy of Professor Bunge, when he maintains, on the authority of Schmiedeberg, that the increase in the heart's action after drinking is due not to the direct effect of the alcohol, but to the increased expenditure of strength in “babbling” and needless gesticulation; but the difference is of little practical moment.

Most instructive is the treatment of the question of alcohol as a relief to the weary. It is exactly the doctrine which has been proclaimed on temperance platforms and in temperance literature in England for the last fifty

years; but it is most refreshing to read it in a German scientific treatise:—

“Among the indications of paralysis which are usually interpreted as stimulation must be included the benumbing of the sense of fatigue. It is a firmly rooted belief that alcohol strengthens the tired man for new work and exertion. The sense of fatigue is the safety valve of our engine. He who benumbs the sense of fatigue in order to work on, is like the man who fastens down the safety-valve in order to be able to overheat the engine.

“The mistake of supposing that alcohol strengthens the tired man is specially mischievous for the large working class. Poor people whose income, independently of this, is hardly sufficient for an honourable livelihood, are induced by this prejudice to spend a very considerable part of their earnings on alcoholic drinks, instead of on abundant and appetising nourishment, which alone can strengthen them for their laborious work.

“That the prejudice about the strengthening action of alcohol is so ineradicable may be explained by the experience of habitual drinkers. If a man is once accustomed to the regular consumption of alcohol, he is actually rendered capable of more exertion by means of the alcohol, than he would be on the sudden and complete withdrawal of it. We are not as yet in a position clearly to explain this phenomenon, but it is completely analogous to the action of other poisons on persons habituated to them. If an opium-eater is deprived of his opium he can neither work, sleep, nor eat; he is, so to speak, strengthened by the opium, but the man who is not accustomed to any narcotic is not rendered more capable of exertion by any.

“That the most moderate doses of alcohol are not only completely useless, but positively injurious, is proved (better than by any scientific deduction) by the numerous experiments on a large scale, which have been tried in the treatment of troops; and which

* ‘Die Alkoholfrage’: ein Vortrag von G. Bunge, Ord. Professor der Physiol. Chemie an der Universität, Basel. Leipzig: Verlag von F. C. W. Vogel, 1887.

have already established the fact, that in all climates, whether in war or peace, in heat, in rain, in cold, soldiers can best bear the hardships of the severest marches when they are completely deprived of all alcoholic drink."

Our author sums up this part of his argument in the following emphatic statement:—ALCOHOL, THEREFORE, STRENGTHENS NO ONE; IT DOES BUT BENUMB THE FEELING OF FATIGUE.

Our readers, after this, will forgive the Professor when he tries to heighten the effect of his testimony, by maintaining that the teetotalers whose experience contrasted so favourably with that of moderate drinkers "are mostly men in poor health—hypochondriacs, or people who have learned prudence from bitter experience." The author does not personally know our grand army of life teetotalers!

Though not prepared entirely to dispense with alcohol as a medicine, Professor Bunge very significantly says:—"It must only be prescribed in acute diseases, for relief in transient emergencies, never in chronic cases—for the same reason which prevents the use in such cases of opium and chloral—unless, indeed, the object be to let the patient die more easily."

Again, in reply to those who object that to give up intoxicants is a needless, almost an unjustifiable piece of asceticism, we are taught that the enjoyment which wine can give is too dearly bought by the sacrifice of a truly healthy, natural appetite. We need not follow the Professor through his philosophic discussion of the essential unity of matter and spirit, as it is perhaps too metaphysical for the average English reader. But while in this aspect he shows himself a thorough German, his condemnation of beer as a specially mischievous beverage is positively astonishing. "People are

horrified," he says, "if a man is made into a thief or a murderer by brandy-drinking, but they are completely cold and indifferent to the fact that thousands become stupefied, imbecile, and ragged, by beer drinking. That does not at all disturb our Philistine in his selfish complacency. Beer is really the most mischievous among alcoholic beverages" (he is speaking here of Germany and Switzerland), "for the very reason that no other is so seductive. Brandy-drinking is a disgrace in all classes of society; the intellectual *élite* of our nation glory in their immoderate beer-drinking."

We have no space left to discuss the remainder of this excellent lecture. Thus far, the subject has been the uselessness, nay, the injurious action, of even *moderate* doses of alcohol. The able author next proceeds to consider the terrible results of drunkenness; and after citing statistics, too well known in England, he proceeds to ask, "What is to be done to put an end to all this unutterable misery?" And to this question his answer, most briefly stated, is, "Total abstinence for the individual, total prohibition by the State of the manufacture and common sale of intoxicating liquors." His concluding words have the true ring about them:—"Finally, we must acknowledge that there is nothing to prevent the gradual complete abolition of all alcoholic beverages, except selfishness. But selfishness will not win the day. Sooner or later, unselfishness must be victorious; they must conquer who are determined on the most complete self-sacrifice. This is the testimony of all the world's history. Let this consolation sustain us amid all the failures of life. Let this be the source of our strength, nerving us to endure in the conflict. The victory is ours!"—*Temperance Record*.



A TEMPERANCE BREAKFAST will be given in Dublin on Thursday, August 4, to the members of the Medical profession attending the Annual Meeting of the British Medical Association.

ALCOHOLISM AND ACUTE DILATATION OF THE HEART.

At the Clinical Society of London, on Friday, 27th May—Dr. BROADBENT, President, in the Chair—Dr. ROBERT MAGUIRE read a paper on acute dilatation of the heart produced by alcoholism, of which the following is an abstract:—Alcoholism produces acute changes in the nervous and circulatory systems. The latter are not usually of serious moment, but may occasionally be important, as shown by the two cases here given. The first patient (æt. 23), when applying for treatment, showed œdema of the legs and some ascites. The pulse was small, weak, and of low tension, beating at the rate of 140 per minute. The heart beat was diffused; apex outside nipple not lowered; epigastric pulsation excessive. Cardiac dulness was extended vertically and laterally. Cardiac sounds were short, weak, and spaced, a slight systolic murmur was heard. There was dyspnœa, but no abnormal pulmonary sounds. The urine was excessive in quantity, and of low specific gravity. There was no history of rheumatism, or of previous cardiac symptoms, and after excluding all other causes, it seemed clear that the dilatation of the heart was produced by alcoholism, of which the patient gave a pronounced history. Under treatment by cardiac tonics the symptoms and the enlargement of the heart entirely disappeared. The second patient (æt. 43), when first seen, had œdema of the legs, tremor of the tongue and hands, and complained of nervousness and want of sleep. The pulse was small, feeble, and easily compressible. The after-beat of the heart was outside the nipple line, and was somewhat diffused. The transverse dulness of the heart was increased in extent. The cardiac sounds were short and sharp, but no murmurs were to be heard. As in the previous case, no cause could be found for the dilatation of the heart, other than acute alcoholism, of which the history was clear. Under treatment the symptoms entirely disappeared. The mechanism by which alcoholism produces the dilatation is probably not by increasing the peripheric resistance, but

by poisoning the heart muscle itself, so causing it to give way before a normal, or even a reduced, arterial tension.

Dr. BROADBENT said the subject of the paper was novel, and he had not met with any observations bearing on it before. He said it was not easy to understand how this particular effect was produced. He thought that taking large quantities of diluted alcohol without food might aid.

Dr. ORMEROD asked what form of alcohol was taken—he thought this was not without importance in the production of these symptoms, as evidenced by an observation by Leyden as to beer drinking.

Dr. STEPHEN MACKENZIE thought the condition in this case was doubtless due to the poisonous effects of alcohol, but in certain cases it might also be due to inflammatory changes.

Dr. EWART said that beer drinking was very common in this country and in Germany, and it seemed difficult to credit the explanation offered. He did not think he was likely to overlook so obvious a cause of cardiac dilatation. He certainly never thought that the dilatation began in the left ventricle, or was due to toxic effects. He asked whether the pulsation at the wrist was also counted at the heart; he had noticed that the actual rapidity of the heart's beat was often greater than the pulse seemed to show. He also asked what effect Dr. Maguire had remarked as the result of dilatation of any or all the cavities of the heart. It had occurred to him that when the cavity of the heart was dilated, the surplus of blood probably remained in the dilated cavity at each contraction, otherwise part of the circulation would be deprived of its share of blood.

Dr. HINGSTON FOX inquired whether the urine had been examined more than once in testing for albumen?

Dr. MAGUIRE, in reply, said that the favourite drink was gin. The urine had been systematically and carefully examined. He had carefully eliminated any possible peripheral resistance, and had remarked that at no time was arterial tension present.

THE LONDON TEMPERANCE HOSPITAL.

PRIOR to 1870 the treatment of disease without alcohol had been practised by various medical men of experience and repute, but no institution had incorporated the principle into its procedure, and no tabulated results of medical treatment without alcohol had been presented to the world. Without prejudging the issue of a carefully-conducted course of Hospital practice into which the ordinary administration of alcohol did not enter, it was felt to be eminently desirable that such a system should be allowed a fair and extended trial. So many hospital patients were known to be the victims of strong drink either by their own indulgence or from the effects of such indulgence on others—and so much risk must be incurred by the administration of alcoholic liquors during illness to persons not previously intemperate, that both the philanthropist and the man of science had the strongest reasons for wishing to have the question of the utility or otherwise of alcohol in disease subjected to such a test as only a hospital can provide.

The work of the Hospital has continued through each successive year to justify the hopes of its founders, and to show that a great reform in the treatment of disease without the ordinary administration of alcohol was desirable and possible. The Board rejoice that such a reform is almost universally in progress, and that medical opinion in regard to the value of alcohol as a curative agent is undergoing what they consider a beneficial change. The experience of this Hospital has certainly conducted to this result, and they cannot doubt that every succeeding step in the same direction will prove the wisdom of the course pursued, the more nearly it approximates to that principle which our own Hospital has from the first adopted.

The in-patients admitted during the year ending 30th April, 1887, were 674, a number larger than the aggregate cases in the first five years; and adding the 63 cases remaining at the

end of the previous year, a total of 737 cases were treated within the year, and the deaths were 57, or 8·4 per cent. From the commencement the in-patients have numbered 4,160, of whom nearly one-half (2,007) were non-abstainers; and though the great majority of in-patients are necessarily drawn from residents in London, 635 cases were received from country districts. The rate of mortality during the whole period has been 5·8; but it will not be thought surprising that this has somewhat increased since the opening of the new buildings, on account of the much larger number of casualty cases admitted.

The Casualty Ward, which is so placed as to be available at all times without interfering with other patients, has been greatly in request, the number of cases in the year having been 1,167, a weekly average of 22, though in some weeks this proportion has been far exceeded. The Isolation Ward, reserved for special cases which it is desirable to treat separately, has also been found of the greatest advantage.

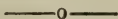
The Board are happy to state that the Special Medical Report, dealing with the work of the Hospital down to the end of 1885, is approaching completion. It has been deemed advisable to publish in a separate form the Medical and Surgical Reports for the year 1886 in continuation of the Special Report; but these documents will be forwarded free to all subscribers who may apply for one or both; and it is believed that their circulation among the members of the medical world will tend, more than any means already used, to promote the professional appreciation of the specific work of this Hospital, especially among those who are anxious to reduce the administration of alcohol to the lowest advisable point.—*Fourteenth Annual Report.*

The Report gives a few brief examples serving to show that the Temperance Hospital is in every respect a general hospital, and that the cases are of the same kind as those admitted elsewhere, both in regard to the classes

from which they are drawn and to their severity.

Replying in the *Stamford Guardian* to some remarks by the medical mayor of that town, who spoke at a licensed victuallers' dinner as if the non-alcoholic treatment of typhoid fever had never been heard of, Dr. Edmunds has shown not only that alcohol may safely be dispensed with, but that the mortality at the Temperance Hospital has been lower than at those hospitals where the alcoholic treatment has

been assiduously followed. Amongst sixty-six cases of typhoid fever treated entirely without alcohol at the Temperance Hospital during 12½ years ending 31st December, 1885, there were eight deaths, a mortality of 12·12 per cent.; whereas at St. George's Hospital—where three-fifths of the patients had alcohol in large quantities, although 13 per cent. had none—there were sixty-nine fatal cases out of a total of 281, a death-rate of 24 per cent.



TERTIARY ALCOHOLS.

DR. B. M. SHAPIROFF has made a number of observations on the physiological action of tertiary alcohols, and especially on that of dimethyl-ethylcarbinol, a tertiary amyl alcohol obtained by the action of chloride of propionyl on zinc methyl. In its pure form this substance is a clear oily liquid with a strong odour. The melting point is 12° C.; the boiling point is 102·5° C.; and the specific gravity at 0° C. 0·828. On oxidation acetic and propionic acids are formed. When 0·001 to 0·005 gramme is injected under the skin of a frog, the first effect is to cause stupor—*i.e.* depression of the cerebrum; after which paralysis of the spinal cord is induced, evidenced by the arrest of the lymphatic hearts, the centres for which are, according to Veliki, located in the cord. No direct effect is produced on the hæmic circulation. In warm-blooded animals dimethyl-ethylcarbinol diminishes the blood pressure, paralysing the vaso-motor centres, but does not exert any direct action on the heart. On the temperature it produces a decided effect, lowering it in a marked degree. The action of trimethyl-carbinol is very similar to that of the compound containing a molecule of ethyl, but less marked and slower. In general, according to the author, the tertiary alcohols, though they may have the same composition as primary alcohols, exert a very dif-

ferent physiological action, the latter class of bodies being general stimulants, while the former act as depressants.

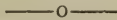
Another Russian observer, Dr. Shumoboi-Simanovski has published some recent observations (*Ejenedëlinaia Klinicheskaia Gazeta*, No. 11) on trimethylcarbinol, which, he says, was obtained first by Butleroff by the action of zinc methyl on oxychloride of carbon, and also by its action on chloride of acetyl. It is sometimes described as tertiary pseudo butyl alcohol. As long ago as 1867 Danielevski reported at the first Congress of Russian Naturalists that this substance had the property of allaying irritability of the psychic centres without causing any preliminary excitement. Dr. Simanovski, from observations recently made on both warm- and cold-blooded animals as well as on patients, is now able to confirm the views of Danielevski, and also those of Thierfelder and Mering, who found that tertiary alcohols exerted a soporific effect on rabbits. The dose for an adult of trimethyl-carbinol is from ten to twenty drops. Given to two patients in Professor Botkin's wards suffering respectively from perinephritis and pleurisy, with a high degree of habitual and long-standing insomnia, it produced in both instances a really good night's sleep. There appeared to be no objection to repeating the draught on several successive nights.—*Lancet*, June 18.

MICRO-ORGANISMS AND ALCOHOL.

ON Wednesday evening, March 23, at one of the ordinary meetings of the Society of Arts, a paper on "Some of the Conditions affecting the Distribution of Micro-Organisms in the Atmosphere" was read by Percy F. Frankland, Ph.D., B.Sc. (Lond.), F.C.S., F.I.C., Assoc. Royal School of Mines, in which he said:—"That the air we breathe is more or less laden with living organisms is a fact which is far from acceptable to most persons, and yet it would require but little persuasion to convince the majority of mankind that air without organisms would be undesirable indeed; for without one micro-organism at least, which is very widely distributed in the air, we should have to forego those numerous, complex, and much appreciated pleasures which are derived from the consumption of alcohol in its various forms. How many would vote the earth flat and stale but for the products which are alone elaborated by *yeast*, which was the first micro-organism to receive attention, and which, in spite of the many powerfully organised endeavours to undermine its position, is likely also to be the last to absorb the interest of man."

The discussion that followed the reading of the paper was adjourned till the 30th March, when Dr. Alfred Carpenter said: "The first part of the paper he took exception to was where these micro-organisms were spoken of as if their presence and action were a blessing. Dr. Frankland also spoke of the great advantages and comforts,

and the pleasure which belonged to those that produced alcohol; and, as a consistent abstainer, he (Dr. Carpenter) did not agree with the conclusions which the author's paper had come to, as he had an impression and opinion that the world would have been far happier if these micro-organisms had never had an existence. The proof that they had to do with fermentation, and that all the alcohol produced was the production of some form of micro-organisms, was undoubted. This was shown very clearly by the facts that had been detailed by Pasteur, and especially by others who had been working in this particular field for a long number of years. It was evident that these micro-organisms had a very important influence in promoting the production of that which he considered to be a very great evil. It was true that the organisms existed everywhere, and that their action in producing alcohol did undoubtedly exist without the intervention of man; but in the majority of instances it was by the intervention of man that certain forms, at any rate, had been brought into use, and strong drink, which was the result of man's action, and not of the action of nature, was one of those which he wished had no existence at all. They had to face the fact that it had an existence, that it had an influence, and to endeavour as far as possible to mitigate the incidence of that evil influence, and try to stop the progress of it as far as possible."



MORTALITY CAUSED BY DRINK.

AN interesting debate concerning the death-rate of persons abusing alcohol occurred at the meeting of German scientists and physicians in Berlin (September 18 to 24, 1886). Sanitary Counsellor Dr. Baer introduced the subject by remarking that the fact was well recognised that individuals frequently under the influence of alcoholic drinks, when taken sick,

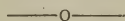
died sooner than persons of moderate habits, not considering at all diseases directly due to the action of alcohol. The well-known insurance statistics of John Scott show that of saloon-keepers between twenty-four and forty years of age 21 per 1,000 died; of other persons, 10 per 1,000; between forty and sixty years 60 per 1,000, while the general death-rate of the

population at the same age amounted to only 35 per 1,000. Another statistical report, which compares the mortality rate of ministers with that of saloon-keepers (rather an antagonism) bears this result:—

	Ministers. Per 1,000.	Saloon-keepers. Per 1,000.
Age, 25 to 35 ...	4 ...	14
„ 35 to 45 ...	6 ...	20
„ 45 to 55 ...	13 ...	38

In England the following figures are used as a basis for all calculations of probability with reference to life insurance: 14 per cent. of all deaths are indirectly due to alcohol; 4 per cent. are directly caused by alcohol. These figures demonstrate the undeniable fact that the whole mortality rate of the United Kingdom would be 20 per cent. less were it not for the abuse

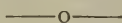
of alcohol. These tables are of the more value as they have not been put together by fanatical temperance apostles, but by men who themselves did not object to the moderate use of spirituous drinks, but who well recognised the pernicious influence of the abuse of intoxicating beverages. Privy Councillor Dr. Spinola reported the mortality rate of the Berlin Charity Hospital with reference to death due to alcohol. From it we notice that the death-rate due to this cause has increased 36 per cent. Another fact, mentioned by the same observer is also of interest. During the year 1880 exactly 300 persons were treated for delirium tremens; in the year 1885, on the other hand, 671 such persons were attended for the same complaint. —*Medical and Surgical Reporter, Lancaster Pa., U.S., Feb. 5.*



THE DIMINISHING USE OF ALCOHOL.

WE share the satisfaction of all our contemporaries in reflecting on the significance of a less expenditure on alcohol. The expenditure on drink in 1886 was £122,905,785, as compared with £123,258,906 in 1885, or £363,121 less. Ten years before, in 1876, the highest expenditure was reached—viz., £146,288,759, or £4 9s. per head, as against £3 7s. 8d. in 1886. It is deeply to be regretted, however, that the diminution in one year is not more than £363,121, in spite of all the teachings of medical science and personal experience. Not only is the diminished amount drunk still enormous, but it is drunk by an ever-diminishing number of persons. For there is an ever-increasing number of persons who either totally abstain, or drink exceedingly little. It is drunk, too, in the wrong way. All casual drinking, drinking on an empty stomach, is bad, and makes directly for disease. We must be thankful for any improvement, however slight.

But the disease implied in the consumption of nearly 123 millions of money's worth of alcohol is enormous. A recent return to Parliament shows a steady and large decrease of alcohol consumption in workhouses. In the year ending Michaelmas, 1871, the total cost of intoxicants used in workhouses in England and Wales was £82,554. The cost for 1885 was £44,820. In some workhouses with a large number of inmates, as Wandsworth, Lambeth, and Bethnal Green, no intoxicants at all were used. Similarly with several provincial workhouses. It cannot be too much impressed on guardians that there should be no interference with the medical officers in regard to the prescription of alcohol for the sick, nor upon the medical officers that theirs is the responsibility of prescribing it with care. The parliamentary returns show that in workhouse practice, as in private, the profession is alive to its responsibilities.—*Lancet*, April 9.



Society for the Study and Cure of Inebriety.

ANNUAL MEETING.

THE annual meeting of the Society was held on Tuesday, 5th April, at the rooms of the Medical Society of London; the President (Dr. Norman Kerr) in the chair.

THE PRESIDENT took for the subject of his annual address the novel one of the Pathology of Inebriety, and concluded by describing the post-mortem appearances he had seen in the bodies of inebriates on whom inquests had been held.

MR. JOHN HILTON was glad to have heard a clear exposition of the diseased conditions ushering in inebriety. Such teaching by medical experts was invaluable.

MR. AXEL GUSTAFSON said he had listened with profound satisfaction to the president's address. If ever he had listened to orthodox teaching he had heard it to-day. He hoped it would be widely read, and would come to the minds of men as an evangel.

SURGEON-GENERAL FRANCIS said that one of the strongest reasons why some young persons would not become abstainers was because they liked to go with the stream, and they were not aware that, as the president had said, they might have an inherited alcoholic diathesis, or that the habit introduced a gradual deterioration both of tissue and mind. In the treatment of inebriates, sound teaching as to the pathological effects of alcohol was of vital importance.

DR. ALFRED CARPENTER dwelt on the need for practical work and sound instruction on the disease-producing power of alcohol.

DR. R. PARAMORE said that teaching meant learning, and the public required to be enlightened on the physical effects of alcohol on the system.

THE PRESIDENT pointed out that the mere having a tendency was no excuse for giving way; we were all weighted with tendencies, some with an inebriate tendency. If we know

our tendencies and have a certain amount of control to commence with, we may hand down to our children better ability to overcome any tendency to wrong. And in this way, by our study, we were in a position as a society to do a very great deal to put the temperance question on a sound basis.

A paper by Dr. T. D. CROTHERS, Hartford, Connecticut, U.S.A., was then read, on the "Causes and Cure of Inebriety." There were probably half a million alcohol and opium inebriates in America, or one in every hundred. The mortality among these is about 90 per cent. Of 100 inebriates sixty would be found to owe their inebriety to defective brain and nerve from inheritance. Thirty would have had moderate or excessive drinking parents or grandparents; twenty would have had insane, epileptic or idiotic parents; and ten, consumptive or otherwise diseased parents. Of forty with no history of heredity, twenty-five would have begun drinking after severe disease, or injury. Moderate, excessive, or periodic drinking parents are followed by inebriate children, either in the first or second generation. The first will either be inebriates or rigid abstainers. The second will develop inebriety from the slightest exposure. Some specific brain degeneration has been transmitted. All these cases begin at a certain point and pass on the same road. When this starting point is known, inebriety may be stamped out. Efforts at cure are based on the theory of a moral disorder, so are deficient. In America over 50,000 inebriates were sent to prison in 1886. The pledge fails to cure many. The inebriate is diseased, and should be in quarantine. The disease should be checked at the beginning, and hospitals be established everywhere for the reception and treatment of inebriates.

British Medical Temperance Association.

—o—
President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION. Not less than Five Shillings.

ENGLISH BRANCH.

Honorary Secretary.

Dr. J. J. RIDGE, Enfield, Middlesex.

NEW MEMBERS.

Surgeon-Major ARCHDALL, London, S.E.	Dr. W. M. BRANSON, Rotherham.
Dr. BODKIN, Chelmsford.	Dr. PHILLIPS, Cardigan.

NEW ASSOCIATES.

H. S. ARCHDALL, Esq., Guy's Hospital.
M. S. ARCHDALL, Esq., Guy's Hospital.
W. J. POTTS, Esq., Owens College.

SCOTTISH BRANCH.

Honorary Secretary and Treasurer.

Dr. YOUNG, 25, Manor Place, Edinburgh.

NEW MEMBER.

Dr. BEATTIE, Pitlochrie.

NEW ASSOCIATE.

G. W. DICK, Esq., Edinburgh.

IRISH BRANCH (CENTRAL).

Honorary Secretary and Treasurer.

Dr. MACDOWEL COSGRAVE, 24, Gardiner's Place, Dublin.

NEW MEMBERS.

W. GREEN, Esq., Portlaw.	JOHN MINCHIN WHITTAKER, L.R.C.P.
H. S. LUNN, Esq., Dublin.	Ed., L.R.C.S.Ed., Cove House,
HENRY S. LUNN, Esq., M.B. Dub.	Sandycove, Co. Dublin.
Univ., 26, Trinity College, Dublin.	C. WOODRIGHT, Esq., Malahide.
WILLIAM RUTHERFORD, M.D., Ch.M.	W. WOODRIGHT, Esq., Malahide.
Queen's Univ., Ireland, Ballinasloe.	

NEW ASSOCIATES.

ALFRED R. PARSONS, Esq., 18, Grantham Street, Dublin, T.C.D. Med. School.
EDWARD B. FENNELL, Esq., 6, Holles Street, Dublin, T.C.D. Med. School.
F. S. M'CLOUGHEY, Esq., 19, North Frederick Street, Dublin, Ledwich Med. School.
ADAM H. FULLER, Esq., B.A., 23, Westland Row, Dublin, T.C.D. Med. School.
J. DOUGLAS CAREY, Esq., 80, Rathmines Road, Dublin, Ledwich Med. School.
R. S. CARNEGIE, Esq., 5, Mount Tallant Square, T.C.D. Med. School.
T. B. WILKINSON, Esq., 6, Ashfield Terrace, Harold's Cross, Dublin.

NORTH OF IRELAND BRANCH.

Honorary Secretary and Treasurer.

Dr. W. G. MACKENZIE, Richmond Terrace, Belfast.

NEW MEMBERS.

Dr. WILBERFORCE ARNOLD, J.P.,
Belfast.

Dr. J. GORDON, Belfast.

Dr. J. C. SMYTH, Belfast.

Enfield, June, 1887.

J J. RIDGE, M.D., *Hon. Sec.*

THE ELEVENTH ANNUAL MEETING.

THE Eleventh Annual General Meeting of the British Medical Temperance Association was held in the rooms of the Medical Society of London, 11, Chandos Street, London, W., on Tuesday, May 24. In the absence of the President, Dr. B. W. Richardson, who was unavoidably prevented from being present until towards the close of the meeting, Dr. Norman Kerr occupied the chair.

Dr. J. J. RIDGE, honorary Secretary, read the following

REPORT.

"It is gratifying to be again able to report progress. Altogether 35 new members and 23 new associates have been enrolled in the various branches of the Association during the past year. On the other hand there have been several losses by death or resignation, and some names have been removed from the list in consequence of communications to them having failed to receive any reply for a long time past.

"The list therefore stands as follows:—England and Wales, 234 members and 15 associates; Scotland, 44 members and 11 associates; Ireland (Central), 40 members, 35 associates; Ireland (North), 24 members, 10 associates; abroad, 9 members; the total being 352 members and 72 associates.

"One of our Vice-Presidents has been removed by the hand of death; namely, Dr. Munroe, of Hull, who has belonged to the Association from its commencement and has done good service to the Temperance cause.

"The following papers and communications have been read at the

general meetings:—"The aims and claims of the British Medical Temperance Association," by the Honorary Secretary; "The Public-house and the Public Health," by the President; "The Absolute and Differential Diagnosis of Alcoholic Paralysis," by Dr. Pearce; and the Decrease of Alcohol in Workhouses," by Dr. Norman Kerr. These papers have been published in the *Medical Temperance Journal*, and the first was also reprinted separately and has been widely distributed; it was presented to every medical man who attended the temperance breakfast at the annual meeting of the British Medical Association at Brighton.

"At the meeting in November a resolution was adopted to memorialise the Government to institute an inquiry into the extent of disease and mortality produced directly and indirectly by the public sale of intoxicating liquors. Such a memorial was sent to Lord Salisbury and the Secretary of State for the Home department, and its receipt has been acknowledged.

"In December, a Conference with metropolitan medical students was held in the Lecture Hall of the National Temperance League, by the kind permission of the Committee. Representatives from several of the schools were present, and much interest was shown by those students who attended; short addresses were given by Dr. Norman Kerr, Professor Victor Horsley, Dr. Pearce, the Honorary Secretary, and two students, Messrs. W. M. Eccles and Higgins, who testified to the increased prevalence of practical abstinence among the students of the present day. Mr.

W. M. Eccles has consented to act as Honorary Secretary of a students' committee.

"All these signs of an increasing conviction among intelligent men that total abstinence from intoxicating liquors is not only reasonable, but more rational than their use even in moderation, are very gratifying, and there is no reason to doubt that such a conviction will spread with even greater rapidity in the near future; it would greatly accelerate this if medical men would put their convictions of the advantages to total abstinence into practice, and would make their influence more widely felt by publicly joining the British Medical Temperance Association."

Dr. T. MORTON submitted the treasurer's report.

Dr. LORD expressed his pleasure that the society was really growing in numbers. He was sure that any of those who had felt the benefits of abstinence in their own persons and seen its benefits in their practice, could feel nothing but gratitude that they had ever been led to see the importance and value of teetotalism. The longer he lived and the older he got the more convinced he was that any medical man who made up his mind to do entirely, or almost entirely, without the use of alcohol, both in his home and in his practice, would be better satisfied with himself, and with the result of his treatment amongst his patients.

The reports were unanimously adopted.

The CHAIRMAN in proposing a vote of thanks to the president and officers for their services during the past year, said the age of sensationalism, to a certain extent, had passed with regard to their movement, and the work now to be done was a work of education. Although they were comparatively few in numbers, yet they had a wide influence, for the opinions to which they gave utterance were sent throughout the land, and were really permeating and educating a large number of preachers and teachers in the temperance field.

Dr. NORMAN KERR then proceeded

to give some interesting statistics with regard to the work at the Dalrymple Home for Inebriates. He said there had been 103 cases admitted since the opening of the Home. Of these, forty-eight were admitted under the Act, fifty-five having entered as private patients. The number admitted under the Act was much less than usual, owing, doubtless, to the fact that by a recent decision of the Home Office each patient had to appear before two justices of the county in which the request for admission was made. As regards the period for which the patients had entered, thirty-five, or fully one-third, had entered for a period of twelve months. The great bulk of the cases were between 30 and 50 years of age, which seemed to point to the fact that at certain periods of life there was a greater tendency to inebriety than at others. The average age was 35. Education had been found to be no bar whatever to habits of intemperance, as was evidenced by the fact that twenty-six of those admitted had come from colleges, fifty-five had received good educations, twenty fairly good, and two elementary. As regarded occupation, he was sorry to say the medical profession was only too well represented, partly accounted for, no doubt, by the fact that medical men realised more the benefit of residence in a home than the laity. The military profession and civil servants were also well represented, and a fourth of the whole were gentlemen of no occupation, showing that idleness was a very strong predisposing cause. With regard to the family history, there was a family history of insanity in nine cases. Of the 103 cases, there was a well-defined history of inebriety in forty-three. In seventeen cases it was either father or mother, in six cases it was grand-parents (with uncles or brothers); in ten cases it was brothers, and in ten cases it was uncles. As regarded the drinking habit, that had been classed under two heads—regular and periodical; the proportions being fifty-eight and forty-five respectively. The history with regard to delirium tremens was some-

what remarkable. Sixteen patients had had an attack previously, five had had two attacks, three had had three attacks, and one had had no less than five attacks. Many people supposed that the only kind of intoxicating liquor to be dreaded was strong spirits; nine cases of inebriety, however, had come before them in which spirits did not enter in the slightest degree. As regarded the exciting cause, sociability had been the chief cause; nerve shock from domestic, financial, or business trouble, came next. Eighty-five patients had been discharged—seventy-five from efflux of time, four from illness, and six as being unsuitable for treatment. The average

length of period under treatment of all patients discharged was about six and a half months. As to their after history, thirty-six were doing well, two had improved, one had become insane, and three had died. They had, therefore, a record that over 60 per cent. had remained steadfast in the safe practice of total abstinence.

Dr. WALTER PEARCE, B.Sc. (Lond.), M.R.C.P. (physician to out-patients, St. Mary's Hospital), then read a paper upon "Acute Dilation of the Heart due to Alcoholism"; and one was read by Dr. J. J. RIDGE upon "Experiments on Alcohol as a Septic Agent." Both papers are given in full elsewhere.

IRISH CENTRAL BRANCH.

THE Annual Meeting of the Irish branch of the British Medical Association was held on Tuesday, June 7, at the Royal College of Surgeons, Stephen's Green, Dublin; Deputy Surgeon-General F. L. G. Gunn, President, took the chair.

Amongst those also present were—Drs. F. E. M'Farland, R. M. Morton, J. W. Young, J. Wallace Boyd, V. L. Watts, David R. Draffin, Robert E. Macdowell, James Searson, O'C. J. Delahoyde, W. Starkey, Robert Lynn Heard, H. A. Joynt, W. J. Langley, Henry S. Lunn, Collins, Carnegie, &c.

Dr. Macdowell Cosgrave, Hon Sec., having read the minutes of the previous meeting,

The CHAIRMAN addressed the meeting. He said the object of the Society was to promote temperance amongst medical men and medical students. No man required to have his wits about him more than the medical man, and no man ought to be a total abstainer more than a medical man. No doubt, as science increased they would have a larger number of medical men joining this Society. Alcohol was prescribed very freely by men in their profession, and the responsibility attached to such a practice was really tremendous. They prescribed it in a free, offhand way, as they would never

prescribe any other drug. This society did not order that it should not be prescribed at all, but they recommended that it should only be given in really extreme cases. One of the greatest arguments against the prescription of wines by medical men for their patients was the general impurity of the wines sold, and the uncertainty as to the amount of alcohol in them.

The SECRETARY then submitted the Report, in the course of which it was stated—Your council have great pleasure in presenting their third Annual Report for the year ending 30th April, 1887. In their last report your council mentioned that the President had kindly consented to visit Belfast, and to bring the Association before the medical men and students of that town, and to confer with them as to how the work of the Association could best be extended in the North of Ireland. Your council are glad to say that the President's visit was very successful, and led to the formation of a North of Ireland branch, which promises to be energetically and successfully worked. Your council welcome the formation of the new branch, and are very grateful to the President for his valuable assistance. In consequence of the formation of the North of Ireland

branch, your council recommend the addition of the word "central" to the name of this branch. The number of members at present on the role is 41. This apparent falling off is accounted for by the necessary transference of 14 names to the North of Ireland branch. During the year three new members joined, six associates became qualified, and were transferred to the members' list, one member went abroad, another moved to England, and three died, the increase for the year being 4. The number of associates is 35; 6 were qualified during the year and became members, and 7 new associates joined. A special general meeting was held in the Royal College of Surgeons on November 5. Dr. Thompson read a paper on "The treatment of pneumonia," which was followed by a discussion, and vacancies in the associates' committee were filled up.

Dr. F. E. M'FARLAND, a member of the deputation from Belfast, in moving the adoption of the report, said they were making very satisfactory progress in Belfast. They numbered 25 members and 15 associates already, although only one year in existence. Many medical men did not know what was required of the members of this society. One of its requirements was that its members should themselves be total abstainers; but it did not interfere with any member in prescribing for his patient. He concurred entirely with the remarks of the President, and he thought it would be a great benefit if one standard of alcoholic liquor should be sold in chemists' shops and labelled "Poison." He spoke of the increase of total abstinence amongst the soldiers in India. There were now over 10,000 totally abstaining soldiers in the army in India. A great move in the direction of total abstinence was taking place in the medical profession, and it was to the young members that they must specially look for the advancement of the objects of this society. In

conclusion he begged to convey to the President the thanks and good wishes of the members of the Ulster branch of the British Medical Temperance Association, a branch that, he might say, was a creation of the President's own courteous and energetic efforts.

Dr. ROBERT MORTON, Belfast, in seconding the motion, spoke of the establishment of the science of public health. It had raised their profession to the position of family physician to the public, and made their opinion authoritative upon such matters as the use of alcohol. An immense amount of evidence had been brought forward in favour of total abstinence, and against the daily use of alcohol. The *Medical Temperance Journal* afforded them very valuable information, and really did excellent service.

The resolution was adopted.

Rev. H. L. S. LUNN, M.B., moved—"That in future the annual subscription for associates be reduced to one shilling, the *Medical Temperance Journal* being still supplied. He spoke chiefly of the advantages of gaining over medical students to temperance principles. He referred to the evils caused by the introduction of drink to India. In this Jubilee year, when they were all rightly rejoicing at the fifty years of progress that they, as members of the British Empire, had shared in, they should lay this very seriously to heart. They had gone to Mohammedan and Buddhist countries, where temperance was a part of the people's religion, and, under the name of Christianity, they had introduced the drink traffic, and if they could only get medical students who were to work in India in the future to join this association it would go far to counteract this evil.

Mr. JAMES SEARSON seconded the motion, which was adopted.

The proceedings concluded with a vote of thanks to the President and to Dr. MacDowel Cosgrave, Hon. Sec.

Notes and Extracts.

ABSTINENCE AND LONGEVITY.—It is a noteworthy fact that in the abstainers' section of the United Kingdom Temperance and General Provident Institution the deaths for last year fell exactly one hundred short of the number provided for in the recognised tables of vital statistics; the anticipated mortality being 271, and the actual deaths only 171.

THE DANGERS OF WINE DRINKING.—Dr. Donnet, physician to the Lunatic Asylum of Bordeaux, tells us that a great deal of wine is drunk in Bordeaux. Rich people pride themselves on their taste in wines, and men in good positions are frequently met with who drink rather more than two and a half pints at every meal. On this account disorders of the circulation, stomach, liver or kidneys, are common, and statistics prove that there are more deaths from apoplexy in Bordeaux than in any other town in the world.—*London Medical Record.*

MEDICATED WINES.—We think the Board of Inland Revenue are right to place some restriction on the sale of medicated wines. Many of these preparations consist of ordinary foreign wine, often Marsala or sherry, to which some medicinal substance has been added. It is to be feared that in some cases they have been used in undue quantities for the sake of their alcohol, while in others the consumers have not known that they were drinking strong wine. In future a wine license will be required by every person who sells them.—*Lancet.*

ALCOHOL IN A NEW ZEALAND HOSPITAL.—A Dunedin paper reports that the expenditure upon alcoholic liquors in Wellington Hospital during last year was £400 less than the previous year, when it amounted to £620 for an average of forty-five patients. The editor adds:—"Our own opinion is that the Wellington Hospital Board may easily save another £200 of their liquor expenditure. They would still

have £20 worth of liquor for their forty-five patients, giving them 8s. 10³/₄d. per head, which would be nearly four times the average expenditure in eleven of the principal hospitals in the Old Country and America, from which returns have been obtained."

ALCOHOL AND MENTAL AFFECTIONS.—In the course of his Lettsomian lectures on some of the mental affections of childhood and youth, Dr. J. Langdon Down referred to the difficulty of obtaining reliable statements with regard to the influence of alcoholic intemperance. He found avowed and notorious intemperance in 12 per cent. of the fathers and 2 per cent. of the mothers, but the proportion varied extremely with the stratum of society. In the upper ranks it was an insignificant factor, while in the lower social class it was of great importance. Some of the cases were the result of deterioration of the fathers' mental and physical powers, others of procreation having taken place during a debauch. In Norway, when the spirit duty was removed, insanity increased 50 per cent., and congenital idiocy 150 per cent.

ADDING SPIRITS TO BAD WATER.—In a paper on "Theory and Practice as to Disinfection," read to the Association of Public Sanitary Inspectors, Dr. Alfred Carpenter said:—"It has been found that alcohol has no effect upon dormant germs, except to preserve their vitality from absolute and early decay, and so those who think to escape the evils which arise from the use of polluted water by adding spirits to it, for the purpose of purifying it, or destroying the disease germs which may possibly have invaded it, are like to those who trust to carbolic acid, resting upon a broken reed, which will only lead to a similar result as that which happened to the Israelites of old. The use of spirituous liquors as a protection against the evils of impure water is no protection at all, and the scoff at total abstainers that they risk

their health by using water instead of alcohol and water, is based upon a fiction and not a fact."

BEER-DRINKING AND DISEASE.—Dr. Day, in his quarterly report as superintendent of the Washington Home of Boston, Mass., says:—"Of the 165 new cases admitted, thirty-four had delirium tremens. The increase of patients each year brings a larger number of cases of disease of the kidneys. Formerly not over one in six cases which came under treatment had disease of the kidneys. Now one in every three has this affection, which I believe to be owing to the great increase in the use of beer. Many of these cases try to substitute beer for stronger spirits, and in this way tax the kidneys severely. Those who have used beer for years always have diseased kidneys. I am also confident that phases of insanity are more common in the cases which came for treatment during the last four years. My experience sustains the views of Dr. Crothers and others that inebriety is increasing, and the insane types of inebriety are also increasing. This is due in part to beer drinking and increased nervousness."

THE DRINKS OF THE TEMPERATE.—Quoting from a report presented to the Massachusetts Board of Health by the official analyst, and which deals with the purity of drugs and other substances of sanitary importance, the *Boston Medical and Surgical Journal* gives a list of some forty or fifty "tonics" and "bitters," sold to the public either as non-alcoholic or as aids to temperance. In these preparations, which are advertised and vended under numerous names, many of which will be familiar to readers of newspaper advertisements even in this country, the amount of alcohol varies from 6·1 to 47·5 per cent. The dosage is usually from half a wineglassful to one wineglassful three times daily, but occasionally the purchaser is instructed to make still more frequent use of the "remedy." Especially is this the case in the "bitter," containing the highest proportion of spirit in any preparation examined, viz., 47·5 per cent., and which is

directed to be taken "a tablespoonful to half a wineglass or more, three times daily, or when there is sensation of weakness or uneasiness at the stomach." If some such report as this could be prepared respecting the multitudinous quack "tonics," "bitters," *et hoc genus omne*, sold in this country also, it would certainly lead to equally striking and instructive results.—*Medical Press*, April 13.

ALCOHOLIC BATHING.—Many persons are so wedded to the false idea of the usefulness of alcoholic preparations in sickness, that there are those who still cling to the idea that alcohol must be used in bathing. One may as easily violate the temperance pledge by bathing in pure alcohol as by taking it through the stomach. It is readily absorbed by the skin, and circulated through the whole system. This may easily be proved by bathing the arm of a friend in alcohol. Within ten minutes the odour will be detected in his breath! When alcohol enters the circulation it is hurried forward, and thrust out through the lungs in a few minutes. This of itself shows that it is a poison, a foe to every function of the body, not to be tolerated, not to be digested and appropriated like food. The effort of its ejection produces what we call stimulation. Since stimulation implies an unusual activity causing the human machinery to work at its greatest speed, it is very plain that it works at a disadvantage. Power is wasted and a depressed state of the body follows. Stimulation is but another name for debilitation. The direct action of alcoholic preparations is unfavourable to the healthfulness of the skin. It wastes naturalness and beauty. Just to the extent that the skin is stimulated, weakness, debility, and diminished activity will follow. The skin will be made dry and harsh, for the reason of a well-known fact that alcohol has such an affinity for water that it abstracts it from all substances with which it comes in contact. This explains why it will preserve meats, amputated limbs, &c.—Dr. J. H. Hanaford, (*American Medical Missionary Record*).

THE
MEDICAL
TEMPERANCE
JOURNAL.

VOL. XIX.—1888.

LONDON:
NATIONAL TEMPERANCE PUBLICATION DEPOT,
337, STRAND, W.C.

MEDICAL

18

LONDON:

BARRETT, SONS AND CO., PRINTERS,

GREAT TOWER STREET, E.C.

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Original Contributions.

PHYSIOLOGICAL ERRORS IN THE ADMINISTRATION OF ALCOHOL IN TYPHOID FEVER AND CROUPOUS PNEUMONIA.

By ROBERT F. SINCLAIR, M.B., *Belfast.*

A SHORT time ago I had occasion to see a man suffering from an attack of acute pneumonia. When I was called in to give my opinion of the patient he was being attended by a medical man, whose instructions were that the patient should get as much whisky as he could take, with the result that during his illness—which lasted only about seven days or so, at the end of which time he died—the patient had managed to dispose of about a pint of whisky every twenty-four hours. In another severe case of pneumonia under my own care, the medical man called in consultation suggested, as his contribution to the therapeutic problem, the administration of a fair amount of whisky every hour or so. This case, more fortunate than the other, survived, but the crisis was postponed till the fourteenth day, a delay that I am now almost disposed to attribute to the administration in large quantities of this popular medicine. A somewhat similar experience, as regards alcohol, in a case of typhoid fever, led me finally to seriously consider whether this free, not to say lavish, administration of alcohol had any very strong scientific basis to rest upon. Subsequent consideration and a critical examination, first of the physiological action of alcohol on the muscular, nervous, and vascular tissues, and secondly, of the pathological conditions present in typhoid and acute pneumonia, have convinced me that *unless*, it may be, in very exceptional conditions,

say where the heart is feeble and irregular, and is obviously failing, and not where the heart is regular though weak, the scientific knowledge that prompts the administration of alcohol in these diseases is usually of that kind which inspired the author of that simple, not to say child-like scientific formula, *similia similibus curantur*. Because, except by this simple explanation, it is very difficult to account for the administration of an agent whose peculiar actions are to, in great measure, intensify the pathological conditions present in both of these diseases.

As it is incumbent upon any one who differs from others to give a reason for the faith that is in him, I shall endeavour to set down, as briefly and clearly as possible, the grounds for my conclusions.

First, then, as to the physiological action of alcohol on the muscles, nerves, blood-vessels, and heart. Confining ourselves to those actions about which there is now no dispute, we find that on the muscles the effect of alcohol is to diminish their power of doing work. In fact, the experiments of Dr. B. W. Richardson, and the careful observation of Dr. Parkes, both demonstrate that alcohol has a weakening and paralysing effect on muscular energy. On nervous tissue alcohol exercises a narcotic or anæsthetic effect. It most effectually, even in small, and, *a fortiori*, in large doses, blunts the keenness of the senses, as has been demonstrated by, among others, Dr. Edward Smith and Dr. Ridge. In practical therapeutics we avail ourselves of this peculiar paralysing and anæsthetic action of alcohol on the nerves by administering it to relieve the pain of some neuralgias.

On the blood-vessels we find this drug has the effect of dilatation, particularly of the capillary vessels. And it is noteworthy, as Dr. Richardson has pointed out, that this distension of the capillary circulation caused by alcohol is not confined to the skin, where we can readily see the reddening produced by this dilatation of the capillaries, but extends also to the internal organs, whose small blood-vessels also undergo the same over-distension.

In its action on the heart alcohol exerts a very striking and powerful influence. The classical experiments of Dr. Parkes on this point are too well known now to need repetition here. Suffice it to say that its effect is to greatly increase the work performed by the heart, and by increasing the frequency of the heart's beats it must lessen its period of rest, and so diminish its nutrition. But alcohol also interferes with the heart's power of compensating itself. And as this is a point that has, as it appears to me, hardly received the consideration that it deserves, and is of peculiar significance when we are considering the effect of this agent on the heart in disease, I make no apology for quoting here the experiment of Dr. Parkes, elucidating this:—"In experimenting

on another healthy man I came to the following interesting result. The exercise and diet being uniform during a period of ten days, the mean daily pulse (nine two-hourly observations) was 70·65. Severe exercise being then taken during another period of ten days for two hours in the morning, in addition to what had previously been taken, the pulse in those two hours was augmented sixteen beats per minute over the corresponding period. It fell, however, in the subsequent hours below the mean of the corresponding period. So that the mean pulse of the day was 70·42 per minute, the same as in the ten-days period before the additional exercise. The heart, in fact, completely compensated itself, and the work done by it was the same on days of moderate and of severe exercises. Now, alcohol would have disturbed this adjustment and would have kept the heart beating more rapidly than it should do. The compensation would not have been produced."

With these actions of alcohol before us, let us see, without being too minute, what are the general pathological conditions present in typhoid fever and pneumonia. We shall first take the conditions common to both diseases, afterwards dealing with a special feature in each case. In both diseases the muscular and nervous tissues are in a state of extreme weakness and relaxation. Great weakness, indeed, both bodily and mental, is a characteristic of both diseases, and the general indications for treatment as regards these tissues, at all events, point to a tonic and nutritive treatment. But instead of thus following these indications, we too often proceed to administer this drug in considerable doses, and in a form, viz., whisky, of whose strength and purity, and consequently of whose therapeutic value even as alcohol, we are perfectly ignorant. But, with a faith in the distiller or publican that would be touching were it not ridiculous, we administer to a patient whose muscular and nervous systems are already in a state of weakness and want of tone an agent that has a peculiarly paralysing and weakening effect on their tissues.

It is claimed, of course, for alcohol, that it reduces the temperature, and that as the high temperature is the great cause of the muscular and nervous relaxation, alcohol, by reducing the heat, will do good instead of harm. But although it is perfectly true that in large doses, in healthy persons, alcohol does readily reduce the normal temperature of the body, this reduction is neither so certainly nor so readily produced in presence of high fever. We have, on the other hand, agents whose action in lowering temperature is, to say the least, as trustworthy as alcohol, and whose accompanying effects are not so open to suspicion as are those of alcohol. Were the action of alcohol in reducing temperature, in fever, as certain, as it is uncertain, the peculiarly exciting influence that it has on the heart's action, would I think

almost more than counterbalance its good effects. There are, as yet, unfortunately very few trustworthy observations on the effect of this agent on the heart in states of high temperature, when the heart is already beating too rapidly and powerfully. Dr. Parkes' experience, however, goes to show that it does increase the frequency of the heart's beats. "As far as my observations go, I have found it usually, if not always, increases the frequency of the heart in disease, and in some patients the rapidity of the heart's action has been simply owing to the administration of alcohol."

As this point, however, is still *sub judice*, it would be unwise to dogmatise. But when we see alcohol given to patients whose pulses sufficiently attest how powerfully the heart is beating, one cannot but feel that to give, in such conditions, a drug that peculiarly excites the heart to more rapid action, is indeed a work of supererogation. And when it is given, as it too frequently is, during convalescence, when the heart is beating feebly indeed, but is regular in its action, it seems to me that we are thereby interfering with the heart's power of self-compensation. We saw, in Dr. Parkes' experiment on a healthy man, how a period of under-action succeeded a period of over-action; and we saw how alcohol would have disturbed this natural adjustment. But the feeble action of the heart during convalescence is very much a measure of its previous over-action; and here, too, there can be no doubt that we tend to disturb the heart's power of self-compensation when we administer alcohol.

In typhoid fever, again, we have a peculiar danger to avoid. Where the intestinal mucous membrane has been eroded, and the underlying blood-vessels are left thereby very unprotected, it is obvious that any drug or food that would tend to suddenly dilate these vessels is to be avoided if possible. But in giving alcohol we give an agent that, by increasing the force of the heart's beat, and by dilating the blood-vessels, tends to increase the danger of hæmorrhage from the bowels. Again, in acute pneumonia, the essential feature of the lung trouble is the blocking up of the air vesicles, it may be, and frequently is, of an entire lobe, with an exudation that is composed chiefly of fibrin, blood corpuscles, and epithelial cells. This exudation, by completely filling and distending the air-cells, necessarily presses upon and compresses the capillary blood-vessels that ramify in the alveolar walls, with the result of more or less impeding, and in severe cases stopping, the circulation through the part of lung affected. And it is to be expected that, in proportion to the extent of this process of exudation in the air vesicles, with its consequent hindrance to free circulation of blood over the respiratory surface, must be the danger to the patient. It is, then, of

importance to know, if possible, what are the conditions that govern the diminution or increase of this exudative process. In the course of some very interesting experiments instituted to elucidate this very point, by Dr. Hamilton, Professor of Pathology in the University of Aberdeen, it was found that the extent of this croupous exudation was pretty much in proportion to the distension of the capillary vessels of the lung. And Professor Hamilton sees reason to believe that "the extra pressure existing in the lung capillaries will of itself form a thick fluid to transude into the air vesicles, and will thus supply an excess of fibrin-forming materials,"* with the result of hindering very materially the circulation in the affected part. Further, referring to the effect of any increased action of the heart on such a condition, Professor Hamilton believes that "parts of the lung having their blood-vessels quite occluded, any increased action of the heart must raise the tension still higher in those not occluded, and hence increase exudation into the alveoli, and, if still more increased, cause rupture of vessels, and therefore hæmorrhage into the lung substance." So that the conditions favourable to the spread of croupous exudation into air-cells are over-distension of capillaries and increased frequency of heart's action. Now, as in this disease our whole aim is not to increase but to diminish the spread of this exudative process, it must be obvious that anything that tends to facilitate the spread of this exudation should be scrupulously avoided. And as alcohol necessarily, by its inherent property, both increases capillary dilatation by its paralysis of vaso-motor nerves, and also powerfully excites the heart, the effect of administering this drug will be in the direction of increasing instead of diminishing the mischief in the lung. It is to this action of tending to increase the croupous exudation that I am inclined to attribute the delay in the crisis till the fourteenth day of the case of croupous pneumonia to which I have already referred.

I may briefly summarise my conclusions as follows :—

I. The condition of the muscles and nerves in typhoid and pneumonia, being one of weakness and relaxation, the administration of alcohol in such diseases must tend to intensify such weakness and want of tone in those tissues.

II. By its action on the heart, alcohol in the first place increases the work of an already over-excited and over-worked organ, and therefore must tend to more quickly exhaust it by diminishing its period of rest, and thus interfering with its nutrition. And in the second place, it must tend to weaken and impair the heart's power of compensating itself, by keeping up

* "Pathology of Bronchitis."

and prolonging the period of excited action, when but for this drug the heart would be beating more calmly, and would be, in fact, taking its rest after overwork.

III. When given in typhoid, after ulceration of the mucous membrane of the intestine has occurred, it greatly increases the danger of hæmorrhage.

IV. In croupous pneumonia, alcohol must tend to increase the exudative process in the air vesicles, and thus help to prolong instead of limiting the period of the disease.

V. Finally, it seems to me that in administering this drug we are far too much governed by routine and authority; and from what I can see, I cannot help coming to the conclusion that *pari passu* with the growth of a man's knowledge of the powerful actions of this drug will also grow his caution and reluctance in administering it, without very serious and careful consideration of the pathological conditions present in the diseases for which he may be inclined to prescribe alcohol.



THE NUTRITIVE WORTH OF ALCOHOLIC LIQUORS, AND OF OTHER DRINK AND FOOD MATERIALS.*

By C. R. DRYSDALE, M.D., M.R.C.P. Lond., *Senior Physician to the Metropolitan Free Hospital, of London.*

THE distillation of alcohol from wine seems to have been discovered in the eleventh century, and in the tenth century alcohol had already, under the name of *aqua vitæ*, obtained a reputation as a panacea for all diseases. It was not until the end of the seventeenth century that alcohol was permitted to be sold publicly in the streets, for before 1678 it had been sold only in apothecaries' shops. In 1744 many shops sold *aqua vitæ*. We do not find many accounts in the writings of Greek or Roman authors of the damage caused by wine. Seneca, in his Epistle 95, speaks of some of the affections of the nerves seen among great wine drinkers. The nineteenth century has been distinguished for the many excellent descriptions of the diseases due to acute or chronic alcoholic poisoning. One of the most striking of these works is that by Professor Magnus Huss (Stockholm, 1852) on "*Alcoholismus Chronicus*," and that able observer, whose patients were chiefly brandy drinkers, was one of the first to compare the lesions caused by alcohol to those engendered by

* Read at the second International Conference against the abuse of Alcoholic Liquors, Zurich, Switzerland, September 9, 1887.

lead or by ergot of rye, &c. Huss pointed out that not only were diseases of the liver and viscera, of the thorax and abdomen, frequently due to long-continued brandy-drinking, but that insanity and nervous affections were often caused by the practice. Cirrhosis of the liver and fatty degeneration of that organ he pointed out were very frequently seen in old spirit-drinkers, and the kidneys, lung, and heart, also suffered as well as the stomach and intestines. Skin affections, said Huss, such as rosacea and shedding of the epidermis, and weak sight, were very common in drinkers.

Dr. Lancereaux, of Paris, has recently given a very good *résumé* of all the diseases due to the chronic use of alcohol, which are tedious to enumerate, so many are they; and that physician is of opinion that they cause death more frequently than any other well marked single disease in Parisian hospitals, with the exception alone of pulmonary consumption, which is terribly frequent in Paris.

If then it be alleged, as it is alleged by some, that alcohol is of the nature of a pabulum or food, it may be said that it is one of the most unwholesome of all articles of diet; for it would be strange if we were told that the use of beef or mutton, milk or bread, was the clear cause of the death of one-twentieth of the patients dying in the Parisian hospitals, as Dr. Lancereaux says is the case with alcohol. That it has, however, been classed with the non-nitrogenous foods is certain; for Professor Justus von Liebig, writing in 1858, distinctly asserts that alcohol is a respiratory food. He considered, indeed, that, of all respiratory foods, alcohol acted the most rapidly; and insisted that in no part of Germany did the apothecaries' shops fetch so low a price as they did in the wealthy cities of the Rhine; because wine was there the universal medicine. According to Liebig it was wrong to attribute destitution and misery to the use of spirits. Poverty, he maintained, was the cause of spirit-drinking, for the ill-fed labourer craved for a respiratory food, and betook himself therefore to alcohol. When we read these expressions of the illustrious chemist, we are reminded of the dictum of Goethe, that it is impossible to cultivate truth in all directions, and that chemical hypotheses are very dangerous to life when they are allowed to replace the slower, but surer, method of the clinical observation of disease.

Liebig's opinions had many warm upholders in the ranks of the literary world and among the public in general. Unfortunately, too, some of the ablest physicians adopted them. This was notably the case in London when Dr. Bently Todd, a physician of great repute, wrote in 1860 a work entitled "Clinical Lectures on Certain Acute Diseases," in which he first enunciated the

doctrine that, seeing that alcohol was by the admission of Professor Liebig an admirable food, therefore it should be used in the treatment of diseases such as fevers, erysipelas, and other lowering febrile complaints, in order to keep up the strength. Incredible as it may appear to modern pathologists, Todd said he had never seen or read of an authentic case in which inflammation of any internal organ had been caused by the use of alcohol. Hence that distinguished founder of a school of alcoholic therapeutics used to give as much as from twenty to thirty ounces of brandy daily in the twenty-four hours to patients affected with typhoid or pneumonia. Todd's pupils were most enthusiastic in their admiration of his hypothesis and treatment; and it is only during the last ten years that sobriety in the administration of alcohol in disease has returned to the hospitals and private patients of London physicians. It would be difficult to say whether the extensive blood-letting of the last century, or the alcoholisation of Dr. Todd's time, was the more dangerous to life.

In 1860, Messrs. Ludger Lallemand, Perrin, and Duroy, of Paris, the two first professors at the Imperial School of Medicine of Paris, and the last member of the Society of Pharmacy, published a work entitled "*Du rôle de l'alcool et des anaesthésiques dans l'organisme*," in which they showed conclusively that the action of alcohol in the body resembled that of chloroform and sulphuric ether; and then laid down what to me seems the true position of these substances, viz.: that alcohol, ether, and chloroform, are really drugs: but not in any way comparable to starch, fat, or albumen, the ordinary foods. They showed that large amounts of alcohol, unlike milk, or soup, lowered the temperature of the body, and that alcohol might act as chloroform in causing insensibility to pain. These observers contended that alcohol is not a food; that it acts in small doses as an excitant; but in large doses as a stupefiant. They thought that it was eliminated unchanged from the organism, and had a kind of elective affinity for the liver and brain; that it leaves the economy by the lungs, the skin, and the kidney, and that its irritant properties acted on these organs as well as the brain and heart, and gradually deteriorated these organs. It does not seem true that alcohol or ether, or chloroform, leave the body entirely unchanged; but they all evidently do so in part, and in this differ from starch, sugar, and albumen. Hence they are drugs, and not foods. Professor Parkes, of Netley, made some experiments with alcohol and wine. He found that the pulse was quickened, when brandy was taken, from 73 to 88 beats per minute. Small quantities had no effect on the temperature. The average number of beats of the pulse in the water period of the patient in twenty-four hours was 106,000, and when brandy was taken it rose to 131,000, or 25,000 more

beats in the brandy than in the teetotal period. These observers then gave the man (Royal Society Proceedings, 1871) ten fluid ounces of red Bordeaux wine for five days, and twenty fluid ounces for five days. The effects were quite similar to those produced by brandy. The heart's action was increased, but no change of temperature was recorded. When the patient took twenty ounces, he felt hot and uncomfortable; so that twenty ounces, containing two ounces of absolute alcohol, were too much for that man. They gave their opinion therefore that a healthy man would be better without any alcohol, either in brandy or in wine. In 1871 an article appeared in a well-known English journal, the *Saturday Review*, in which the medical profession were charged with inciting their patients to drink; and on a discussion taking place on the question, it was alleged by Dr. Gairdner that the fever patients at the Glasgow Fever Hospital, treated with milk, did much better than those treated by Dr. Todd with alcohol; and whilst Dr. Todd's cases had a mortality of 25 per cent. Gairdner's had one of only 12 per cent.

Upon this Dr. Ridge, of Enfield, Middlesex, a very devoted physician, started a new society, The Medical Temperance Association, in the year 1876, which has now as its president Dr. Benjamin Ward Richardson, and which contains about 350 members, all medical men, and all total abstainers from the use of alcohol.

I remember well that some twenty-five years ago, the use of wine or brandy was so universal in the treatment of disease in London, that it was difficult to see a patient who had been only a few hours in a hospital without having been prescribed by his physician, surgeon, or clinical attendant, three or four ounces of brandy, or six or eight ounces of wine. The increase in the sum paid annually for alcohol in London hospitals was very great indeed between 1852 up to 1872, owing to Dr. Todd's great influence. Parkes and Gairdner's writings, and clinical experience, did a great deal for this question; and in 1882 the amount given in the various London hospitals fell off immensely. Thus, in St. Bartholomew's Hospital, one of the largest in London, milk cost in 1852 the sum of £684, and in 1882 £2,012; whereas alcohol cost in St. Bartholomew's in 1852, £406; in 1862, £1,446; in 1872, £1,446; and in 1882, £953. Westminster Hospital, London, now spends one-fourth of the sum it does on milk on alcohol; *i.e.*, £137 for alcohol and £500 for milk in 1882. Only one hospital in London, St. George's, still maintains its quantity of alcohol, and had in 1872 a high death-rate among its typhoid fever patients of 24 per cent., or similar to that cited among the patients of Dr. Todd. Dr. Myers, referring to the treatment of these fevers in St. George's Hospital, says that alcohol

was given in large quantities to all of the patients except 13 per cent. Three-fifths of the patients had had eight ounces of brandy in the day; and in a quarter of them the dose had risen to sixteen ounces of brandy in the twenty-four hours, only, however, in periods of great danger.

These facts seem to me to show pretty clearly that wine, beer, or spirits, are in no way worthy of the important place they have obtained in the dietary of mankind. They are not like starch, fat, sugar, or albumen, none of which can be abstained from with impunity; for every day we must necessarily consume a certain number of ounces of starch, of fat, of albumen, and drink a certain number of ounces of water, or we shall soon cease to exist. But millions of the human race live habitually without alcohol; and in countries where alcohol is commonly used, those who abstain from it are found to have a longer life by some six years, on an average, than the general public. Hence many medical men in the United Kingdom, and a still larger number in the United States and Canada, abstain strictly themselves from the use of alcohol, and have their annual banquets entirely without it. And these physicians naturally treat their patients as they treat themselves and those they love best, using alcohol as they use opium, chloroform, or ether, in well-marked cases, where the advantage of such a drug is clearly proved; and by no means as a food, or article of daily consumption. Statistics and all experience show me that the patients of such doctors are fortunate; for in very many instances I have seen ruin supervene on a man and his family after contracting a taste for some alcoholic drink from his trusted medical adviser's prescription.

The working man uses spirits to heat him when he is cold, and cool him when he is hot. In both instances he is wrong, since in very cold weather it is the man who sleeps the sleep of the alcoholic drinker who is frost-bitten or frozen to death; and the mortality in Hindostan among persons who drink freely is quite enormous. The poor man, above all, should abjure alcoholic drinks, because he needs all his earnings to nourish and to clothe himself and his family; whilst alcohol is a dead loss to him in all these ways. Nursing women often use alcohol; and, in my own observation, most erroneously. What the wet-nurse requires is plenty of albumen, in the shape of meat, eggs, or fish; and she is damaged by alcoholic fluids. Hence she should give up the use of wine, beer, or spirits, and take gruel, milk, and meat and bread. The action of alcohol is paralysing to the muscles, and hence it is of the greatest injury to the working powers of such men as have to do fatigue work. Unfortunately, even to this day we find that practitioners of medicine are the greatest barrier to the success of the anti-alcoholic crusade which is now being carried on in

various parts of Europe and America. We may prove by figures that our prisons and workhouses are filled with the victims of that terrible temptation of our race ; but so long as the medical advisers of the people are so unconvinced of its evils as to prescribe wine in almost every disease, the people will continue to drink. Morality depends on science ; and so long as scientific men are not unanimous in their condemnation of the use of alcohol in daily life, and until they themselves are aware of the solemn responsibility they undertake in taking alcohol themselves, or in recommending others to use it habitually, very little, I fear, will be done. The medical men of all civilised countries must face the difficulty, and must educate the people to know that instead of wine, beer, and spirits, being necessary for our health and happiness, they are simply anæsthetics, like chloroform—poisonous, calculated to shorten our life, and to destroy happiness in it whilst it lasts.



MORPHOMANIA.

By HARRISON BRANTHWAITE, F.R.C.S., *Inebriate Home,*
Twickenham.

A GENTLEMAN recently came under my care for the morphia habit. He is a fully qualified medical practitioner, aged twenty-seven. On admission he presented the usual symptoms induced by morphia when taken in large quantities. The case will be read with interest, inasmuch as the “ history ” is written by the patient, and fully describes the development of the pernicious habit with all its physiological effects and dangers. He says:—

“ In the year 1883, having suffered from time to time with sciatica, and after having been operated upon with the long gold puncture needle, through the lower gluteal region, into the sheath, in order to allow the effusion pressing upon the nerve to escape, and subsequently finding the above of no avail in reducing the frequency of the attacks, I was finally advised by one of the physicians (visiting) of the London Hospital, Mile End Road, to use hypodermic injections of a solution of morphia, in order to lessen the severe pain of the attack. This I did, and at each attack made use of an injection of acetate of morphia, commencing at the strength of one-sixth of a grain.

“ Just at this time I was working for an examination of great importance, and having found that the small dose of morphia injected gave, or seemed to give, me almost extraordinary power of concentrating my attention upon any subject or work in which I was engaged, I commenced to inject it regularly, morning and evening.

"Having on one occasion been obliged to remain away from my rooms for about twenty-four hours, and therefore being prevented from injecting my usual quantity of morphia—which by this time (*viz.*, about two months after having begun to take it systematically) had amounted to three-quarters of a grain at each dose—I was greatly surprised to observe the following effects in myself, which I attributed to the want of the drug; and which symptoms I may here mention have always since appeared, only in a much more severe degree, when from any cause I have been obliged, or have endeavoured, to abstain from the drug. The symptoms, briefly enumerated, are as follows:—

"1. A general sense of debility, followed—

"2. By general bodily sweating, and flaccidity of the muscles.

"3. A thin watery fluid incessantly running from the nostrils.

"4. Firstly, dilatation of both pupils, accompanied with a gradually increasing flow of tears, and congestion of the conjunctival membrane; and, secondly, this stage, if the abstinence from the drug is still continued, is followed by a contraction (sometimes extreme) of both pupils, as if due to a secondary cerebral or retinal irritation.

"5. An extremely troublesome condition of the bowels, evidenced by a greatly increased, and, in fact, a very perceptible peristaltic action of the bowels, causing irregular diarrhoea and flatulence.

"6. A greatly increased flow of urine, of usually a pale, limpid consistency.

"Of course, all the above symptoms are greatly increased in severity in proportion to the increase of time during which the drug is abstained from, and, more especially, the amount previously accustomed to be injected.

"To define the exact physiological and mental effects produced by a dose of morphia is by no means so easy as might be conceived; for while at first a small dose produces certain effects, in the course of several months a very considerable quantity must be taken to produce similar ones. But even then, though the dose may be increased in accordance with the lapse of time, these primary effects will not remain the same, but give place to others; or, rather, the drug may be said to utterly lose those powers which at first, serpent-like, so fascinated its victim.

"I will now endeavour, to the best of my ability, to describe the primary effects as produced when taken at first—*viz.*, in the year 1883.

"Let us, then, suppose, I have injected into the outer surface of the forearm about one-third of a grain, or four minims, of the P.B. solution. Its effect would not be felt till after the lapse of about five minutes, when—

"1. A rather agreeable sense of fulness makes itself felt about the vertex and temples of the head.

"2. If either the mind or the body is engaged in active employment, a singular sense of pleasure is felt in the occupation, and the more difficult the task may be, and especially if a mental one, the greater will be the concentrated effort to overcome it.

"This state may last for perhaps four hours, when, the cerebral congestion subsiding, the above-mentioned sensation gradually dies away; but in the early period of the morphia-taking, the actual desire for the drug may not make itself felt for several hours after.

"3. A sensation is experienced as if all the muscles of the body had been, as it were, 'tuned up to a high pitch,' or were rendered "taut," and capable and ready for great exertion; in fact, the sensation may be defined as that of feeling 'more compact.'

"4. All the secretions are rendered more or less inactive; thus, if suffering from a nasal catarrh, the incessant discharge is greatly diminished, and, if the injection is considerable, may entirely cease.

"5. However, in the early stages, if plenty of walking exercise is taken, the bowels are not usually affected in the way of constipation, resulting from the lessened intestinal secretions; but should inactivity once be given way to, either by the force of circumstances, or by sedentary over-indulgence, obstinate constipation immediately results; for which the best direct relief is an enema of strong soapsuds injected moderately hot per rectum. Diet of fruit and vegetables, and especially Scotch oatmeal porridge, with plenty of exercise, will, however, always keep the bowels regular, even in spite of fairly large doses of morphia, especially if the regular habit is induced of effecting defæcation every morning before breakfast, even with the use of an enema if necessary every morning, till habit renders this latter unnecessary. Aperient drugs, I find, are seldom required, as any obstruction by hardened masses of fæces is usually in the descending colon of the lower and larger bowel. The motions are nearly always very dark. It is only in the latter stages of morphomania—which we will now deal with—when, after taking the drug for several years, and the dose is enormous—as it was in my own case: viz., forty grains, or often more, injected per diem—that the regular efforts of nature become overpowered.

"6. The urine, which is scarcely at all affected from the normal state in the early stage of morphia-taking, becomes now more and more scanty, loaded with lithates, which on the urine cooling deposit as a dense brick-red sand, and when placed under the microscope show all the typical uric acid crystals. Moreover Kestien often is present in large quantities, forming a complete

scale over the whole of the surface of the urine. The urine is also of a dark red colour, and of very high specific gravity—even occasionally as much as 1038 and even higher. Also on the addition of an equal quantity of nitric acid to some urine (fresh) in a test-tube, and allowing it to stand for some time, nitrite of morphia is deposited in great quantities, together with nitrate of uria.

“7. As time passes on, and the amount of morphia is increased, the primary cerebral congestion becomes less and less appreciable, and the power of concentration less serviceable and involuntary, requiring a greater and greater effort to bring it into play, till finally the old and unsought-for sense of self-concentration is no longer attainable; the cerebral excitation or stimulation is extinguished, and at length only the narcotic or stupefying influence is felt, causing any interruption or cheerful society to be alike irritating to the temper and the mind; and the general hearty ‘bon camarade’ of former years becomes now the dismal and peevish hypochondriac. Not only, moreover, is the effect seen in his mind alone, but his face and body bear terrible evidence of his baneful habit. Paleness or pallor almost amounting to a ‘pasty or clay-like complexion,’ marked by the deep furrows of exalted anxiety and distrust, indicate to himself not only the ravages of his disease which he feels incapable of conquering, but also the knowledge that his miserable appearance must be observed equally well by others from whom he would fain conceal it. His body also, or rather those parts into which he has been accustomed to inject the drug, and which are usually the front of the thighs, forearms, and arms, as is evident from their position, show only too plainly the severe penalty they have had to pay. Scars of former abscesses due to the use of uncleansed syringes; bruises in every stage of red, purple, black, green, and yellow; hard nodular projections from unabsorbed clots of semi-disorganised blood and morphia; mark the course of this relentless demon, and present a pitiable exhibition of what one will undergo to satisfy these fearful cravings for a drug which will assuredly render him as degraded in mind as in body. Horrible as the above account must seem to the uninitiated, to this depth there is yet a lower deep. Still greater danger will the morphomaniac suffer, and this is the risk of accidentally injecting his syringe of saturated solution of morphia into a vein. Surprised not to feel the accustomed pain of injecting the above under his skin, and probably thinking it due to looseness of the subdermal intercellular tissue, he injects rapidly. Hardly thirty seconds have expired ere he feels a severe tingling sensation in the palms of the hands and soles of the feet, accompanied with profuse sweating, intense throbbing

of the forehead and over the whole of the head, with extreme pain, the skull feeling as if it would burst. The face is very deeply flushed, in fact almost purple, the eyes fixed and staring, the conjunctival membrane being greatly injected, the pupils variable, sometimes dilated or contracted, generally I believe the former, as if over-stimulation had paralysed the ciliary nerve of the circular muscular fibres of the iris.

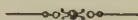
"The action of the heart is then rapid and irregular, and the breathing very shallow, as the least sigh seems to aggravate the intense cerebral pain. But alas! for all this experience (as soon as he recovers from this terrible shock, the morphia not having had time to produce the physiological effect from slow absorption, being quickly eliminated by the kidneys, and the desire for it returning,) the morphomaniac, on the principle of *non bis in idem*, carefully chooses a fresh spot, and slowly injects another syringeful.

"The moral power to abstain from the drug being so much weakened by its prolonged use, I finally decided to place myself under the care of the medical superintendent of one of the best private retreats in Great Britain, with the definite purpose of breaking off a habit which was rapidly finding its sequel in the grave. And with great pleasure I close this brief account of a morphomaniac, leaving the manner of my cure to be described by Dr. Branthwaite himself."

In the treatment of this, as in all other cases, I followed my own plan. I do not believe in what has been called the "heroic" treatment of morphomania. In the nervous exhaustion produced by inebriety it is perfectly safe to cut off at once the administration of that which has produced the disease. Unlike inebriety, morphomania produces such a condition that, in my opinion, it is not safe to cut off the drug with one fell swoop. The treatment by periodical reduction of the daily dose has the great advantage of securing the confidence of the patient, who dreads with horror beyond description the immediate withdrawal of the drug. In the case now recorded this was a most prominent feature, and hence a longer period than usual was taken in the cure. I need not enter into any minute description of the symptoms which followed the gradual cessation of the morphia administration, which are well known to medical men; suffice it to say that the most distressing symptoms were constant mucous discharge from the nose, running at the eyes, and a restlessness most painful, the latter symptom being mostly present from 5 to 7 a.m., at which hour the first injection was given. My patient having tried over and over again to cure himself, readily gave his case up unreservedly into my hands to be cured, with the distinct understanding that he should never ask at what ratio the drug was being discontinued, and that he must place himself

under the whole of the rules of my Home as to total abstinence from all intoxicating drinks and strict supervision by an attendant in his walks, so that he should have no opportunity of obtaining a supply of the drug for use on his own account. All patients addicted to this habit of morphia taking, whether hypodermically or by the stomach, take far in excess of what is absolutely necessary to produce the effect they desire. Hence on the first day of admission I reduced the quantity to thirty grains of morphia in three injections (he had for a long period been taking forty grains daily). This I gave for two days; on the third day twelve and a-half grains; on the fourth, fifth, and sixth days, seven and a-half grains; on the seventh and eighth days, six grains. For the eight days following the dose was reduced to four grains, then to three grains for seven days; two grains for four days; one and a-half grains for four days; one grain for five days; half a grain for five days. The drug was then altogether stopped, and in fourteen days after its discontinuance my patient left me in consequence of pressing engagements which could not be carried out during his residence here. This I very much regretted, as it is absolutely necessary that supervision should be kept up for a considerable time after the discontinuance of the drug in order to a restoration of will power, to enable a man to resist temptation, which will assuredly come in the future.

During the time the drug was being reduced in quantity, eighty grains of bromide of sodium was given every night at bed time, and one teaspoonful of Easton's syrup three times daily.



Miscellaneous Communications.



INTERNATIONAL CONGRESS ON INEBRIETY.

THE first Colonial and International Congress ever held on Inebriety and the Special Treatment and Legislation needed for the diseased Inebriate, assembled at the Westminster Town Hall, London, on Wednesday, 6th July, under the auspices of the Society for the Study of Inebriety. The President, Dr. Norman Kerr, F.L.S., took the chair.

OPENING ADDRESS BY DR. KERR.

The opening address was delivered by the President, who, after welcoming the members, said:

The past half century has exhibited no more striking phenomenon than the

rise and progress of the great Temperance reformation, the jubilee of which was celebrated all over the world a year or two ago. The early abstaining heroes, the memorable men of Preston, and the other brave souls who, some fifty years ago, amid the

scorn, the contempt, and the ridicule of the learned, the religious, and the fashionable, founded that grand reform of which Total Abstinence and prohibition are to-day the practical outcome, had for their aim two great ends—the rescue of the Intemperate and the prevention of Intemperance.

The undaunted temperance pioneers thoroughly understood the material character of the intoxicating principle, and its physiological influence on the body and brain of man. In a word, our nephalistic ancestors had a clear conception of the genesis of inebriety, and had their nephalian progeny all shown as intelligent a comprehension of the subject, there would have been little occasion for the assembly to-day of a Colonial and International Congress for the consideration of the remedial and legislative needs of the habitual drunkard.

Of recent years, however, there has in some quarters set in a bad fashion of stigmatising early temperance advocacy as "low," and of boasting of the co-called "higher platform" of the modern temperance crusader. The true doctrine was taught by the founders of teetotalism, and the pretentious "higher platform" is simply the exclusion of one half of the truth (the physical aspect) concerning intemperance.

The earliest teaching was that intoxicating liquors are dangerous articles, that there are multitudes of persons so susceptible to the narcotic influence of the witching poison that, whatever their accomplishments or their station, if they drink at all they drink to drunkenness; that the confirmed inebriate is a diseased individual, undergoing the tortures of a living death, manifesting symptoms characteristic of the operation of an irritant narcotic poison. Some of our latter day enthusiasts deny that inebriety is ever a disease, insist that the fault always lies with the drunkard, never in the drink; that only the evil disposed and fools fall victims to alcoholic excess.

Need I add that the former well-informed friend of the inebriate recognises the physical phase of narcotic

indulgence, the arduous and protracted character of the struggle of the habitual drunkard for emancipation from his tyrannous task-master; while the latter ill-informed visionary indignantly denies that there is any physical element in the matter, asserting that drunkenness is nothing but a wanton immorality, a wilful sin, and complacently declaring that moral and religious influences are alone of service in the reformation and cure of the inebriate.

The illustrious forerunners of temperance, Erasmus Darwin, two centuries ago, and Benjamin Rush, a century ago, besides other far-seeing and profound thinkers long before, knew and taught the truth. It is not the vicious, the ill-disposed, or the poor, who alone swell the great army of the drunken. The most guileless spirits, the purest minds, the warmest hearts, the most unselfish souls, the loftiest understandings, and the clearest heads, have gone down before the irresistible power of the Bacchic tyrant.

Swells the refrain of ten thousand parrot voices, "Men become drunkards because they drink." If ever it were true, in the language of Tennyson,

"That a lie which is half a truth is ever the blackest of lies,
That a lie which is all a lie can be met and fought with outright,
But a lie which is part a truth is a harder matter to fight,"

it is here. Men become drunkards through drinking, it is true. That is, drinking is the means by which they attain to a state of intoxication. But the majority of those who drink do not become drunkards. Only a certain proportion drink to excess. Drinking, though a cause, is not the sole cause of drunkenness. It is, in our country and in some other countries, the principal means by which drunkenness is arrived at. In other lands, to some extent even among ourselves, opium or some other narcotic anæsthetic is the intoxicating agent.

The act of drunkenness should not be confounded with the disease of inebriety. There may be a succession

of drunken acts, yet no diseased condition underlying these. On the other hand, where there may have been no actual drunkenness, or even limited drinking, the individual may have been the inheritor of so strong an inebriate predisposition as to have been unable to taste an intoxicant without drinking to excess.

Inebriety may be defined as a disease of the nervous system allied to insanity, characterised by an almost overpowering impulse to, or craving for, the oblivion of narcotism. It is, in reality, an intoxication mania.

The causes of inebriety lie deeper than the mere inebriating substance; and until we unravel the etiology and pathology of the disease, until we fully comprehend the philosophy of intemperance, though we even succeed in expelling alcoholic intoxicants from within our borders, the remote causes of inebriety will continue to operate, pleasure-seeking mankind will strive to appease its craving for narcotism by some other inebriant, such as opium, or chloral, or ether, or, as is already being furtively used, chloroform.

The disease of inebriety assumes varied forms. Inebriates may be classed as periodical and constant. The occasional drunkard does not generally labour under the disease, so need not be regarded here. The periodic attacks may be quotidian, tertian, quartan—once a week, once a fortnight, once a month, once every two or three months—or they may occur irregularly. Functional disturbance is the most common cause of periodic outbreaks. There are other periodicities, such as the periodicity of climate, of season, of occupation, and of occasion.

The indulgence of the inebriate may be social or solitary. The majority drink freely only when in "good company," but a considerable minority are secret drinkers.

The particular form which inebriety may take may be determined by the complicating affection. Thus we have the inebriety of insanity, of syphilis, of sunstroke, and of injury (traumatic inebriety).

The form may correspond to the

particular inebriant used. In this way we have alcoholomania, opiomania, morphinomania, chloralomania, etheromania, chlorodynamia, chloroformomania.

Alcoholic inebriety is not confined to ardent spirits, though strenuous efforts are being made to show that beer is harmless, while spirit is injurious, and to establish a difference in kind between the action of fermented wines and spirituous liquors. At the Dalrymple Home nearly 10 per cent. of the cases treated have been examples of beer and wine inebriety. The difference is in degree, not in kind. All intoxicating drinks are poisonous. The lightest beers and the finest fermented wines are as truly, though not so strongly, intoxicating as are the coarsest and cheapest spirituous drinks.

The real question to which an accurate reply should be sought is, "Why do men fly to narcotics?" If we can ascertain this, we will be in a position to understand the alarming nature and extent of the inebriety which is so prevalent among us.

Fashion; the habits in which they have been brought up from their childhood; custom, which, with its hoary head and blanched locks, has made the intoxicating cup seem natural and familiar; tradition, which has shed so venerable and benign an aspect on drinking; poesy, which has wreathed around the intoxicating bowl garlands of surpassing beauty; piety, which has blessed and sanctified the inebriating cup, account for probably the great majority of attempts on the part of individuals to drink moderately. The greater part of these, fortunately, though many injure their physical system and shorten their life by what may more truly be called "intemperate" than "moderate" drinking, have never become "drunkards" in the ordinary acceptance of the term, *i.e.*, they have never lost complete self-control. All who are slain by alcohol are not inebriates. Many who have been killed by it have never once been what is denominated "drunk," in the whole course of their lives.

But, though the majority of drinkers stop short of habitual or periodical intemperance, there is a vast array of men and women—and, alas! of children—who, from various pre-disposing causes, are so handicapped in the race for “moderation,” that, strive as they may, they are unable to attain to it. They set out on their alcoholic career with an utter abhorrence of excess, and with a resolute determination never to exceed, never to come under the grinding yoke of strong drink. They have been educated from infancy in the art of drinking. Infants in arms, they have imbibed the intoxicating draught, it may be, from the maternal bosom. As children they have been accustomed to see fermented wine on the social board, to witness their parents and visitors partaking of it, as a matter of course, without any apparent ill-effect; they have been treated to a sip, then half-a-glass, then a glass of some comparatively light, pleasant wine or beer, as an integral part of their daily diet. In adolescence or manhood they bound forth on the path of life with a buoyant step, quaffing the alluring and enlivening cup, thinking no evil and fearing no harm. Oftener, and yet more often do they, all unconscious of peril, resort to the narcotic for the pleasurable though fleeting sensation which follows, till, by-and-bye, before they feel the chain even tightening, they are firmly bound by the gilded fetters of an acquired appetite for intoxicating agents. With many such the habit has been so confirmed, the brain and nerve centres, if not the body, have been so affected by alcohol, that a veritable diseased condition has been established which renders exceedingly difficult the cure of what was once perhaps only a social indulgence, in which pre-disease state the entire abandonment of intoxicants would have been comparatively easy.

Whatever the difference of opinion as to the precise character of the drinking habit in the first instance, the latter stage is admitted by nearly all to be an unmistakable stage of actual disease.

Causes may be considered as pre-disposing and exciting. An exciting cause provokes the inebriate paroxysm in a constitution predisposed to inebriety, while the same excitant has no effect in stimulating a person who has not this predisposition to excessive narcotic indulgence.

What are the causes which have hindered so many from steadfastness in “moderate” or rather “limited drinking”?

Above and beyond all other pre-disposing causes stands heredity.

This heredity may be regarded as twofold. There is the direct alcoholic inheritance. That drunkards beget drunkards is an axiom dating from very early times. There are also large numbers of children born with an inherited and extremely delicate susceptibility to the narcotising action of alcoholic intoxicants, whose parents were not in the habit of getting drunk, but drank regularly and freely, physiologically temperate, though considered by the world to be models of sobriety.

There is also the indirect inheritance of alcohol. Under this category are ranged individuals who have no special proclivity to excess, who have no direct though latent proneness to inebriety, but who are weighted from their birth by a controlling power too feeble to stay the advances of alcohol within their very being. Alcohol, if it gain an entrance into such constitutions by however tiny an inlet, slowly yet steadily widens the aperture by increasing in volume, as the dykes built to resist the encroaches of the ocean, till all the defences are swept away by the overpowering and overwhelming flood. In no inconsiderable proportion of cases this defective power of control is the product of alcoholic indulgence on the part of one or both parents.

I have seen the alcoholic habit in the parent bear diverse fruit in the persons of the offspring, one sister being nervous, excitable, and inebriate, a second consumptive, a third insane; one brother an epileptic and a periodic inebriate, the second in an asylum, the third a victim to chronic inebriety.

In another instance where all the four children have become habitual drunkards the grandfather had also been addicted to excess.

The heredity is sometimes crossed. The daughters of a drinking father and the sons of a drinking mother may be the only children affected with the inebriate taint.

The heredity may be either insane or inebriate. As inebriate parents not unseldom beget insane offspring, so from insane parentage we sometimes get inebriate children. The heredity may be of some other type. Any transmitted disease or effect of disease which increases nervous susceptibility, unduly exhausts nerve strength, and weakens control, may bear a nervine crop, in the form of asthma in one child, hysteria in another, epilepsy in another, idiocy in another, and inebriety in another.

A considerable predisposing cause is the effect on the system of accident or disease—traumatic inebriety. Blows or falls on the head, and sunstroke, are typical examples of this class of causes.

Injudicious diet and bad hygienic conditions, by their depressing influence on the nervous system, predispose not a little to inebriety. Thus it is that the improvement of dwellings for the poor is so valuable an aid in true temperance effort.

The influence of sex, age, religion, climate, race, education, pecuniary circumstances, occupation, marital relations, temperament, and associated habits, are all worthy of inquiry. The terrible increase of female inebriety in England of late years is a fact of serious import to the future of the British race, as yet little recognised, and less understood. The health, sobriety, and morality of the coming generation, are deeply involved.

Intoxicating drinks themselves, by their toxic effect on body and brain, markedly predispose to inebriety, by degeneration of tissue, by perversion of function, by brain disturbance, by dulling of the moral sense, and by paralysis of will, all of which unhealthy conditions may be handed down.

What are the causes which excite

to inebriety? Some form of nerve shock takes the lead. The shock may be caused by sudden and appalling bereavement, financial ruin, worry, unhappy marriage, disappointed affection, desertion, or sudden and unexpected good fortune. Accidents and disease excite as well as predispose. I have known, for example, sober men and women precipitated, as it were, into drunken excess, immediately after sustaining some obscure brain injury, and in convalescence from enteric fever. Some occupations, such as liquor trafficking, sedentary employment, and daily newspaper work, are more exciting to intemperance than others, being more productive of nerve exhaustion. Climate exerts an influence. I have seen an Italian who led an abstemious life at home, suddenly break out here into inebriate habits. The state of the atmosphere, and the direction of the wind, have a marked effect on some inebriates. Functional derangement is an influential factor. So is idleness. Overwork, overstrain, sociability, and intoxicants, themselves all excite to an outbreak.

Age must not be left out of consideration, the inebriate climacteric ranging generally between thirty-five and forty-five. Unhappily of recent days tender years have not secured exemption. Children of eight, six, and even four years, have had attacks of *delirium tremens*, while even younger little ones have exhibited a mania for intoxicating beer, wine, and ardent spirits. I have heard children who had been rendered insensible by an accident, on recovering from consciousness, ask for gin, or some other similar drink.

The pathology of inebriety is a most interesting study, and reveals the fact of diseased conditions of brain and nerve centres, antecedent to both constant and periodic inebriety.

The importance of a knowledge of the causation of inebriety consists in the basis which this affords for judicious treatment. When we have discerned the unhealthy condition preceding an attack of disease, we are in a favourable position to prevent a re-

currence by remedying the prior morbid state.

Philanthropists and quacks—the former from the highest feelings of benevolence, the latter from the lowest motives of the pocket—have eagerly sought for some charmed elixir, some de-narcotising talisman, which would cure drunkenness and restrain the drunkard from even tasting an intoxicant again. The magic potions have been in number without end. Each in succession has been proclaimed as a perfect cure. But all the pretensions advanced on behalf of them have been found baseless, from the curious alcoholic extract of frog, to the “bark cure,” which latter was believed by good Christian people among us to have miraculously cured thousands of the worst drunkards in an American city. The nostrum had in reality cured no one there, but had caused many a reformed inebriate to relapse into his previous drinking habits. Verily, John Bull should, by the transformation of a letter, be called “John Gull!”

Others, again, in the fervour of their rage against the consumption of the flesh of slaughtered animals as food, have solemnly declared that the cause of drunkenness is the eating of beef, that we are mainly indebted for our inebriety to the devouring of pork pies, sausages, and the fleshpots of Egypt generally, and that abstinence from fish, flesh, and fowl, would destroy the crave for narcotics. A knowledge of the true nature of inebriety and of the facts, would dispel this astounding delusion. Whole races—who would not taste animal food if they were put to death for their refusal—will get as thoroughly and as often drunk as you choose to supply them with the where-withal.

There are certain indications of sound treatment. The first is the withdrawal of the narcotic poison, so that the toxic process may cease. This can be immediate with alcohol, ether, chloroform, and chloral, but generally should be gradual with opium and morphia. The second indication is the removal, if possible, of the exciting cause. The third consists in the reparation of the physical damage

wrought by inebriety, the remedying of the pre-inebriate morbid condition, and the strengthening of the moral control.

In all these curative measures medical treatment is called for. As in the treatment of insanity, the physical disease should be dealt with, moral and religious influences having their appropriate sphere of action. The bodily unsoundness must be set right, while the concerns of the mind, the conscience, and the spirit are not overlooked. Religion is the firm ally of medicine in the successful treatment of inebriety and mental aberration. Nothing is more effective in the bracing of self-control and in the invigoration of the will than are a firm reliance on Divine aid, and unaffected earnest effort in true temperance work.

The corner-stone of successful treatment is absolute abstinence from all intoxicants. This abstinence should be complete, unconditional, and lifelong.

The disease should be dealt with in its early and more curable stage, as the more chronic it becomes the more difficult is the cure. As skilled advice is not usually invoked until the disease is in an advanced stage; the clergyman, the lawyer, and every irregular or amateur practitioner, having been consulted before the medical man; in most cases removal from the former inebriate association affords the best hope of benefit. Sometimes, though rarely, this may be secured by a voyage, in a teetotal ship, or by residence with an abstaining family; but as a rule the only resource is to try a residence in a Home for Inebriates. This should be of, at least, twelve months' duration. As many such establishments are really homes for the confirming or training, and not for the cure of inebriety, it is imperative that the most scrupulous care be taken to see that the institution is genuine, and does not allow the presence of intoxicants.

The results of the treatment at the Dalrymple Home for gentlemen, at Rickmansworth, are most gratifying. There have been 103 admissions, and eighty-five discharges. Of the patients who have been treated in that Home

(which is the only retreat for males with a disinterested proprietary, and at the same time licensed under the Habitual Drunkards Act) more than one-half have been restored to their friends, and have been enabled again to fulfil their duties in life. A like experience has rewarded the treatment at other genuine homes in this country and abroad. So that it may fairly be claimed that one-third of discharged male inebriates have been cured. The record is not quite so favourable in the case of females.

In America and in many of our Canadian and Australian Colonies there is excellent legislation for the compulsory committal of inebriates to authorised Homes for care and treatment; but in the United Kingdom a lively jealousy of interference with the liberty of the subject has prevented us from being favoured with a similar provision. The British Legislature is so enamoured of freedom that it has declined to emancipate the drunkard's hapless wife and starving children from their slavery, or by effective temporary seclusion to give the broken-down, volitionless inebriate, his only human hope of deliverance from a worse than Egyptian bondage. Involuntary internment in a genuine retreat for inebriates would be the freeing of many an abject serf, for such might truly, with the poet, say of themselves:—

“Our freedom chained, quite wingless our desire!

In sense dark-prisoned all that ought to soar!

Proneto the centre; crawling in the dust;
Dismounted every great and glorious aim!
Embruited every faculty Divine.”

Our Habitual Drunkards Act, which will expire in two years, unless renewed, empowers an inebriate, in the presence of two Justices, to sign away his liberty for any period not exceeding twelve months. As there is no licensed accommodation for patients under £2 2s. per week, there is therefore no provision whatever under the Act for the poor, or for persons of limited means. In America, and in our Colonial possessions, it is far

otherwise. There the estate of the inebriate can be held liable for the cost of his maintenance; and where no funds are forthcoming he is treated for a time at the public charge.

There is a residuum of inebriates in whom the disease has become so confirmed that they are apparently incurable. They are not amenable to treatment, and therefore have to be discharged from Homes for Inebriates, as their retention would interfere with the treatment of the other more hopeful cases. For this residual chronic, insusceptible class, provision should be made for compulsory and permanent constraint. It would be true economy for the State to provide for all these classes of inebriates, who, for criminal and police expenditure, necessitate an enormous annual outlay.

The Medico-Legal relations of inebriety are of deep interest. In some countries crime committed during insanity from drink is not visited with heavier penalties than if the insanity were from other causes, and, therefore, exempts from responsibility. In America, France, and England, full responsibility is, however, exacted. In America the severity of the law is in practice mitigated, in capital punishment, by the choice of degrees in criminality. The result of our present jurisprudence is that men and women have been sometimes severely punished for deeds done when the doers were undoubtedly beyond control, and even unconscious of their violence. Our existing jurisprudence was built up when we had little knowledge of the physical phases of inebriety, and a mixed commission of legal and medical experts might be able now to somewhat modify, in the interests of justice, our criminal procedure, with reference to the diseased inebriate.

To prevent misapprehension, let me distinctly state that I do not regard all drunkards as subjects of the disease, inebriety. There are those who indulge intemperately in intoxicants, who drink, as they gamble, for mere pleasure, though even in their case the intemperate habit is apt in the long run to establish a permanent departure from health. The majority of drinkers are

not diseased. There is no inherited inebriate diathesis or acquired inebriate cachexia responsive to narcotic excitation. Exciting causes play as thickly around them; provocative temptations beset them as persistently; pain, grief, joy, and excitement try their nerves as severely, as all these excitants harass the possessors of the narcotic proclivity; but the inebriate excitation expends itself in vain, the inebriate storm passes over a constitution which is unaffected because it owns no corresponding predisposition.

It may be urged that in recognising a physical disease in some forms of intemperance, we absolve the drunkard from responsibility. If he is diseased, how, it is asked, can he help being a drunkard? as he

"Ever bears about

A silent court of justice in his breast,
Himself the judge and jury, and himself
The prisoner at the bar, ever condemned."

The fallacy of this objection lies in the confusion of tendency with necessity. We are all born with certain tendencies, but it does not follow that we are unable to resist these. Hundreds of thousands of Englishmen are ushered into the world with an innate proneness to gout, who all life long have kept the physical family foe at bay by the avoidance of the conditions which favour the development of this ailment. In the same way the inheritor of the inebriate predisposition may, by eschewing intoxicants, by simple and healthful diet, by the observance of hygienic laws, by the cultivation of the mental and moral faculties, and by the hallowed power of religious conviction, preserve a life unsullied by a single drunken blot.

An accurate knowledge of his real tendencies and susceptibilities affords the inebriate the best opportunity of devising an impregnable line of defence against revolt from within and assault from without. Knowing these, he can fortify his weak places, he can make good his defects, he can keep in check the impetuosity of his passions, he can strengthen his control, he can seek support from the source most powerful to succour him,

he can employ with effect arms of power and precision.

To the great Republic of the West the world is indebted for the dawn of a new era of hope for the habitual inebriate, who has been too long the scorn, as well as the reproach of modern civilisation. In the victorious freeing march of the beneficent temperance reform, not a few human captives have been rescued from a living death, not a few human slaves have been restored to abstaining liberty and life. With a fuller knowledge of the causes and conditions of inebriety, which we trust the labours of this Congress and similar efforts will afford, we may confidently look forward to a more successful, because a more intelligent, warfare against intemperance, to the more effective protection of those who have to come after us from the sorrows and the evils of narcotic excess, to the more hopeful treatment of a dire and dreadful disease.

A general recognition of the diseased state of the inebriate may not be realised in our day; full justice may not be accorded to his physical infirmities in our time. But our duty is clear. Our mission is to proclaim the truth. Strong in the righteousness of our cause, let us be content to sow the seeds of knowledge. Let us, each one of us, in our heart of hearts, say with the grand old Quaker poet of America:

"I have not seen, I may not see,
My hopes for man take form in fact;
But God will give the victory
In due time. In that faith I act."

THE MEETING PLACE OF VICE AND DISEASE IN THE INEBRIATE.

By ALFRED CARPENTER, M.D., J.P.

I COMMENCE my paper with an inference, viz., that inebriety in its confirmed state is a disease. By becoming Oinomania, or *delirium tremens*, it shows a condition which is beyond doubt, as to the departure from health. The state of brain cell in the victim of it is then too manifest to be denied by any one. We can trace the origin of many diseases from their first

onset. We believe we are acquainted with the conditions causing them. Such is small-pox. Cases may be traced from their first symptoms with perfect certainty, at least within narrow limits; but this is impossible with inebriety. Yet I have heard it styled a contagious disease, and so it may be, much as the dancing mania of the Middle Ages was contagious. The principle of imitation caused people to follow one another in their vagaries, and to become victims of that class of diseases. These were probably promoted in some instances by the use of alcohol, but I am not aware that they have ever been associated with alcohol as a prime factor, and yet there is a likeness, inasmuch as habit has much to do with raising from its foundation the manifestation of inebriety, whatever view we take of it, whether it be as vice or disease. St. Vitus' dance, even in our day, is propagated by imitation in those susceptible, and those most influenced by this form are delicate children born of bad stocks. Inebriety is not an entity which can be cast off like to a gall stone, or a renal calculus. And yet again it must be something super-added to the human frame which makes the victim of it differ from those people who are in good health and who have never been inebriated. What is that something? and where is its seat? Small-pox, and all the class of known infectious diseases, are caused by the intrusion of particulate matter from without, parasitic particles which cause changes in the fluids of the body—the intruders lasting as living organisms for a defined time, and terminating their mission either by being cast out, and leaving their host in recovered health, or causing his death. Inebriety has no alliance with these cases, notwithstanding its infectious character; indeed I do claim for it distinctly an infectious rôle which requires a kind of quarantine for the protection of others as well as does a case of small-pox or diphtheria, though not necessarily to the same extent, but it is not the blood of the individual affected by the invasion of a parasite which

produces inebriety. What then is it? Can any one doubt for one moment that inebriety has its first origin in vice, as the opposite of virtue, a vicious habit, as Shakespeare says, "No vice so simple, but assumes some mark of virtue on its outward parts" (*Merchant of Venice*, iii. 2); and this change being absolutely due to the fact that virtue may become a vice by distortion and an unequal development or unhealthy action upon its seat in the brain.

Milton styles it "ungoverned appetite." Our forefathers took to the vicious part in the use of alcohol, and made it a virtue to become accustomed to its use, just as Milton describes its real author, the father of evil—"His tongue dropt manna, and could make the worse appear the better reason."

Thus it was in the earlier days of the world, nay, even in the days not long past, in which chivalry played its part, and virtue had a certain kind of respectful reputation. The vicious man might be feared, but *might* alone gave him power to do evil or good. The brutish vice which was inherent in the drunken, had not come out so generally as it has in modern times. It was the exception among the drunken for brutish action to assert its individuality, and being exceptional it had an exceptional treatment, which to some extent diminished the evil of it. This was especially the case in the early Greek civilisation. It was death to the individual to be drunk in public, but Alexander (curiously styled the Great, by virtue of the law of opposites) completely overthrew the virtuous side of the Grecian character, and shattered his kingdom by his drunken orgies, and from that time to the present century, to be "as drunk as a lord" was thought a venial offence. It is doubtful whether the mischief reached a deep or rather numerous layer in human life until the advance of science and the work of the chemist revealed the existence of other narcotising agents besides wine. The amyls and ethyls of this century have opened up a trade in bouquets, and a habit of blending materials in the back cellars of unscrupulous manufacturers, which is

precipitating an evil of a much more alarming character than that which arises from the simple use of wine and ordinary malt liquors. The juice of the grape in its unsophisticated character would never give rise to inebriety as we meet with it now. Other agents, the results of our commercial energy, have appeared upon the scene. Some of these agents, often manufactured from coal tar or petroleum, are more violent in their action than the ordinary ethyl compounds obtained from the juice of the grape. They are used even by the confectioner and the cook, as well as by the wine manufacturer. They are used for the purpose of giving flavours to the sweet-stuff found in all the bye streets of great towns. Sweets contain minute quantities of these odours. Their sale is not limited to the wine blender, or even the manufacturers of potato-spirit, but they are distributed everywhere to young children, and they have a manifest attachment for the brain cell of human beings. It is to the sophistication of ordinary wines and articles of food with these damnable compounds called spirituous liquors that we owe some of the brutish action of inebriates. It is to the production of fusel oil, and its derivatives, and its consumption by all classes of society, that we owe some of the abominations exposed every day in our police courts; and which help to keep our prisons full. You will ask me what this has to do with inebriety as being a vice or a disease. I will explain my views. Physiologists have watched the effect of the fusel oil class of compounds. Curious results have ensued. The immediate action of these poisons is evidently upon the functions of the nerve cell. Its healthy tone is interfered with, and the nerve force altered in its manifestation and rendered brutish in its action.

It is established in natural law that every manifestation of action is attended by chemical change in the change producing it. We have the result of that change in the alteration of some of the powers which should be found in the human mind. The drunken man loses self-respect

whilst under the influence of alcohol, and its allies. Scientific investigation shows that amyl compounds produce these changes more quickly and certainly than the ethylic ethers do. Conscience loses its power over the action of the man. He surrenders his self-will, or he becomes the victim of delusions which hold him their slave as long as the influence lasts. Is it not certain that a sense such as sight has its seat in some nerve cells, so faculties and mental powers are seated in other nerve cells. If one set can be irretrievably damaged, so can the other. If blindness can gradually come on, so that, in course of time, the brain cells are so damaged that the victim can no longer guide himself, but has to trust to another to lead him in consequence of the sight cells being destroyed by some cause, so the seat of self-respect, of courage, the seat of conscience, and the seat of other virtues become changed, and that which was good may be so altered as to be vicious though still apparently the same, they no longer respond to the faculties they represent, and the victim, as far as that faculty is concerned, is as a blind man. Now there are certain diseases affecting the optic nerve which can only be remedied by the entire removal of causes producing them. These causes are sometimes without the body, sometimes within, but if there is failure to recognise the active agent, there can be no cure. The conditions which give rise to loss of sight are various, but those which produce amaurosis or white atrophy of the nerve do not usually come on until man has passed his meridian of life; the result is not, therefore, a large reproduction of children with hereditary tendency to that disease, which would be the case if amaurosis occurred in young people. So it used to be with inebriates. It was completely uncommon for any young person to forget himself and become drunken; and as a consequence, the hereditary tendency to the growth of inebriety was not frequent; but within recent, I may say within railway refreshment, times, young people have become

liable to be drunken, or on the verge of being so, with the manifest result that some families are much more prone to take on the inebriate tendency than others. Young people can now get, without the knowledge of their parents, that which they could not obtain before the times of railway buffets and common refreshment bars, except by consent of their seniors; a consent which was then rarely given, and only among the wealthy. Now it is different, and we see the consequences in the greater and more rapid depreciation of stock in all classes of society. There is nothing unusual in this. The breeders among animals are perfectly aware of the possibility for defects as well as advantageous propensities to be propagated, and they are careful in their selections of parents accordingly. That which the cattle, the horse, and dog breeders understood, nay, which even the horticulturist takes advantage of, is in a great measure ignored by man. I am acquainted with families who have certain tendencies inherent in them, obtained from the habits of their forefathers, which make them more easily fall victims to inebriety, than is the case of others who have been born before their parents became addicted to drink, and especially when as children they have not been dosed with wine or spirits, by some unwise family doctor. Compare the one case with the other. In one a small quantity of liquor brings out the hidden tendency more easily than in the other. No one is able to say how near to physiological saturation his nervous system may be in consequence of this hidden defect—a defect which only reveals itself by being brought into visible action by the use of the poison. We have families in which the faculty of running is powerful, others in which cricket is to the fore, and others in which sight of objects at a distance rivals that of the Red Indian in the backwoods of America, others whose tactile capacities are very great. These faculties have been propagated from father to son, but they are only brought to perfection by exercise of the faculty itself. So inebriety comes out,

more certainly by cultivation in such cases, and the cultivation is more rapid when those compounds are frequently used which have the greatest chemical affinity for brain cell matter. It has been forcibly proved that this affinity is very great between the fusel oil class and brain cell, so that the faculty of the latter is interfered with most rapidly and most certainly by this class of ethers. It seems as if some ingredient in the nerve cell became incorporated with some atom of matter belonging to the particular alcohol altering the nerve current which should result from nerve action, and leaving its impress in a still more damaged state of cell.

Now a man may continue to go on as usual without betraying his blindness, though amaurosis has commenced; so he may, though some cells are altered in his cerebral organs by the action of alcohol or amyl; but the time comes sooner or later, sooner in those hereditarily prone, when the desire for liquor becomes irresistible, and the particular form of disease develops in which free will is lost, the power of conscience is gone, the moral sense obliterated for the time being, and the vice becomes an undoubted disease as much as is delirium tremens or general paralysis. There may be either one or two factors in the case. The tendency may be inherited, or it may have its origin in habit only. Habits have much to do with our happiness or our misery. That which is habitual may become almost natural, just as use is said to be second nature. The habit of lying, the habit of lustful indulgence, the habit of early rising, or of dining at any particular hour, may be so followed that it becomes apparently natural. The cultivation of music may be so perfect that a discordant sound may cause pain; so habit in the use of alcohol prepares the way for nervous change; and we owe most frequently the development of the vice of inebriety to habit, and the habit leads in the end to the establishment of the disease, a transition often seen in our lunatic asylums. Referring again to Milton's definition of the father of evil, "His

tongue dropt manna, and could make the worse appear the better reason," could make vice appear as virtue, so all the virtues which belong to humanity can be changed, and the brain cells developing these virtues be altered, so that vice results in those who were formerly noted for the opposite qualities. The action of amyl and ethyl upon brain cells is clear; there is an alteration of action under their influence, which habit in their use leaves as a comparatively permanent consequence, the user remaining more or less unconscious of the change. The most positive result of indulgence in their effects is the desire for more, and the only safety for those born of inebriate parents, or with inebriate tendencies, is total abstinence from all forms of intoxicating liquors, and even from the flavoured sweets found in most of the sweet-stuff shops in our poorer districts. Whilst the indulgers in the so-called pleasures of the bottle, those who continue the use of the delusive agent in their after-life, and think themselves above suspicion, although they may not be propagating a race of inebriates as fathers and mothers, yet by their influence and example are leading as certainly to their development by the faculty of imitation, as does a child with St. Vitus' dance lead to the manifestation of other cases when it is allowed to continue in the children's ward of any given hospital. They are laying the foundation of a habit which will turn the hidden vice into open disease in others, if not in themselves.

For these, as well as for other reasons which time does not allow me to dilate upon, I urge total abstinence as the only safe path in which the vice cannot become the disease. No one can say he is free from vice. No living person can say he is above its influence; but if habit in the use of intoxicating liquor is not indulged in, inebriety would disappear. The vice is inherent to human nature, the disease is brought out by habit. We can diminish the vice by starving its development; if habit is not allowed to intervene, and if no disease is allowed to arise, the vicious habit would, like

all other evil tendencies of humanity, become dormant in the human constitution. If habit in the use of intoxicating liquors was destroyed the vice would never show itself, and the human family would be much happier than it is, and the disease would be altogether unknown. As my motto is "Prevention is better than cure," I urge this view of the subject upon sanitarians as well as philanthropists.

ON THE HEART AND CIRCULATION OF THE INEBRIATE CLASSES.

By DR. B. W. RICHARDSON, F.R.S.

DR. RICHARDSON explained that he had chosen for his address the subject that was at that moment the freshest on his mind, and to which he had, of late, paid most practical attention, viz., the condition of the heart and circulation in the inebriate classes.

He said that his observations had taught him that although the primary action of alcohol was upon the nervous system, the first organ which bore witness to the action was the heart. This is not peculiar because the heart is always the first witness to the fact of nervous disturbance. When the physician is examining the pulse with a sphygmophone, which records and translates into sounds the curves of the pulse wave, the mere act of the patient listening to the sounds disturbs the heart and alters the pulsation. The effect of odours and of strange sights is the same. It is not, therefore, to be wondered at that the heart should be immediately affected by alcohol.

The distinguished Dr. Wilson Philips showed, originally, and Dr. Richardson had since confirmed it, that if the surface of the brain of an animal be simply exposed to the action of alcohol the motion of the heart is influenced, and the disturbance is so rapid that it looks as if there were a direct impression from the brain to the heart.

Dr. Richardson then proceeded to demonstrate from pulse readings what were the dangers that occurred in the circulation through an acute course of alcohol leading up to complete in-

toxication. The changes he described were not merely from his pen; they were written from the pulse of those affected by alcohol, and they showed a deviation from the standard in every stage. After a complete intoxication up to the fourth degree, the pulse would recover its tone if it were left to gain its natural condition, but it was quite three days before the return to health was declared.

In the inebriate, the heart was never allowed to declare itself naturally. Once put off the natural lines, and if continued off, then it will, in time, become so fixedly unnatural that intervals of relief from the disturbing agent extending over eighteen to thirty-six months were often required before the circulation reassumed the rôle of health.

To what extent the heart is disturbed in the inebriate was a point which Dr. Richardson next demonstrated from pulse readings. He showed—(1) the reading of a natural pulse; (2) the reading of a pulse of an inebriate at his best; (3) the pulse of the same man after he was what he called “elevated,” or supported by a full measure of alcohol; (4) the pulse of the same man during the period of depression following upon the alcoholic indulgence.

These readings showed the continued and continuous variation and irregularity of action of the heart. Among all the stages of the life of this man, the character of the changes exhibited being as varied as his words and actions, his circulation was at the best feeble and uncertain, watery. Under the alcohol it was sharp and vehement, but easily depressed; under depression it was simply, as the old writers well expressed it, “rotten.” It showed no regular outlines. While, then, it may be true, and, no doubt, is true, that alcohol acts primarily on the heart, its mode of action is through the circulation by a third movement back again upon the brain, the volition, the emotion, and the reason.

So soon as these changes, therefore, become permanent or habitual, they produce that confirmed disease and habit of body which we call inebriety,

the centre of which is in the heart and circulation. At first, the heart of the inebriate is made tense and full by alcohol. This, under continuance, extends to permanent enlargement of dilatation with stretching of the valves, especially the semilunars and distention of the arterial system throughout, leading to loss of elasticity. As a further change there is modification of structure both cardiac and vascular; a feeble, large heart, dilated, rigid arteries, distended and bulging veins. The corporeal mechanism is, in short, changed altogether. As an accompaniment of these changes of structure there is a change of disposition of will, of nature.

There are many who are not, strictly speaking, accepted as inebriates, but who are really so, in a minor degree, against their own admission or belief. They are inebriates of the minor key. They tell the physician nothing more than the fact that they know and feel the “sustaining” power of alcohol. They feel, they affirm, that they cannot live without it, and when abstainers assure them that the sense of the requirement is an idea, and no more, they reject the statement as either ignorant, unsatisfactory, or even cruel. This sense of want, in fact, divides the moderately inebriate from the truly temperate. The non-sense of the want is the true sense of the danger. This fact they who do not feel the want know quite well, and they who do feel it know partly, their better judgment leading them to it as the first step towards positive inebriety. In confirmed inebriates the state of the circulation is supposed by the sufferer to be actually natural. It is strange to say, but it is correct, that the confirmed inebriate forgets what it is to be a natural man. He is in a distinct and unnatural sphere, like a man who has been cast amongst savages and made to acquire, by habit, their habits, tastes, and tongue. With the circulation so modified, the heart so feeble, the arteries so imperfect, as in the confirmed case from which the pulse reading was made, there could be nothing but uncertainty of physical and of mental manifestations.

From these reflections on the changes of the heart and circulation under inebriety, Dr. Richardson surveyed the question of treatment. Here two facts presented themselves—firstly, that with the heart and circulation of the pathological inebriate state there can be no rapid or immediate change—that is physically impossible; secondly, that so long as alcohol is permitted to enter the inebriate body there can be no chance of successful restoration of the natural state.

There were, therefore, on pure physiological lines of argument, setting all sentiment on one side, only two elements of cure for the inebriate, minor or major—namely, time and total abstinence from alcohol. It is not simply that, the evil spirit must be cast out, it must be kept out until the body it has perverted comes back to its own natural state, and has, so to speak, been born again.

For what may be classified as the minor forms of inebriation, two years at least of abstinence are necessary in the adult, fully developed sufferer; for the major form two to six years are necessary in order to ensure a restoration from the disablement that has been developed and sustained into permanent habit of disease.

Up to this present time nothing more has been discovered as a cure for inebriety, and this discovery is of much value. But we need not suppose that Science has exhausted all her other resources. In plain truth she has but just begun to see her way. Let those practitioners of medicine who are called upon to treat the inebriate sick, get into their mind's eye the exact condition of the circulatory organs of those who are under their care; the large, feeble heart, the arteries, like an india-rubber ring that from long use has lost its grip over a book or parcel of letters which it has held together—inelastic and ready at any moment to give way, the veins or rivers of life distended and unresistant, and he will fairly grasp the difficulties which lie before him, from their core. Then he will be in a condition quietly to study out how this crippled state may be helped so that time for recovery

may be shortened and recovery itself be made more complete.

He, Dr. Richardson, had no doubt that some aid would come from this study. But one thing at a time, and the first thing was a clear and absolute definition of the physical nature of the evil that had to be met and relieved in the disease of inebriety, which, in however many forms presented, was one disease with variety of phenomena, dependent on a common causation and a common cause.

In addition to the foregoing papers, addresses were given and papers read by Dr. Charles Cameron, M.P., Dr. Clark Bell, New York; Dr. Lewis D. Mason, New York; Dr. T. L. Wright, Ohio; Dr. T. D. Crothers, Hartford, Conn.; Dr. N. S. Davis, Chicago; Rev. J. W. Horsley, M.A., London; the Chevalier Max Proskowetz de Proskow-Marstorff, Austria; Dr. Petithan, Liège; Mr. Axel Dickson, Sweden; Professor Binz, Bonn; Dr. Möller, Brussels; Dr. Joseph Parrish, New York; Surgeon-Major Pringle, M.D., London; the Rev. Dr. de Colleville, Brighton; Rev. Dr. Thwing, Brooklyn; Rev. Dr. Koch, Holland; Rev. J. Gelson Gregson; Mr. H. Branthwaite, F.R.C.S.; Dr. Robert Martin; Mr. R.W. Branthwaite; Mr. F. J. Gray; Lieut.-Col. Whale; Rev. Dr. Lansdell, and others. We hope to give some of the papers in future issues of the *Journal*.

RECEPTION TO DR. CROTHERS.

On the invitation of the President and Council of the Society for the Study of Inebriety, a reception was given in the rooms of the Medical Society of London, on Tuesday, July 5, to Dr. T. D. Crothers, of Hartford, Conn., U.S.A. Dr. Norman Kerr presided, and proposed the following resolution of welcome:—"That this Congress of British, Colonial, and Foreign members, comprising members of the legislature, ministers of religion, physicians, lawyers, philanthropists, abstainers and non-abstainers, prohibitionists, and other friends of the habitual drunkard, convened by the Society for the Study of Inebriety, offers a hearty welcome to

Dr. T. D. Crothers, Secretary to the American Association for the Cure of Inebriates, and editor of the *Quarterly Journal of Inebriety*.

"That this Congress tenders its hearty congratulations to Dr. Crothers and his American colleagues for the excellent work done by their Association and Journal in enlightening the professions and the public on the physical aspect of inebriety; and trusts that through the united efforts of all who are interested in temperance and legislation the time will soon arrive when the diseased state of the inebriate will be generally acknowledged, and when effective measures will be passed by the legislators of every country for the judicious care and treatment of all inebriates willing to be treated in Special Homes, and for the compulsory seclusion in such institutions of inebriates unwilling of their own accord to put themselves under restraint."

Dr. G. B. Clark, M.P., seconded the resolution, and Dr. Crothers replied in appropriate terms.

THE DINNER.

An influential and representative company of 250 ladies and gentlemen sat at dinner in the evening in the large hall, the President, Dr. Norman Kerr, in the chair. The Anglo-Hungarian band played during the evening. An elegant and tasteful banquet was supplied by A. B. Marshall of the School of Cookery, 30, Mortimer Street, W.

The toasts were honoured in five varieties of non-intoxicating wine imported by Frank Wright, Mundy and Co., Kensington. In addition to coffee, Brunnen table water and Brin's oxygenated lemon-water were also on the table. The toasts were "The Queen and Royal Family," from the Chair; "The Houses of Parliament," proposed by Sir Edwin Saunders, and replied to by Lord Denman and Mr. P. MacLagan, M.P.; "Religion, Law, and Medicine," by Lord Mount Temple, replied to by Rev. Dr. Lansdell, F.R.G.S. (the Siberian traveller), Mr. W. B. Rowlands, Q.C., M.P., and Dr. C. J. Hare (for Dr. Withers Moore,

President British Medical Association); "The Study and Cure of Inebriety," by Dr. J. S. Bristowe, F.R.S., replied to by Dr. Crothers; "Our American Guests," by Dr. B. W. Richardson, F.R.S., response by Dr. Parrish; "Temperance Organisations," by the Chairman, replies by Canon Ellison (C. E. T. S.), Sir Wilfrid Lawson, M.P. (U. K. Alliance), and Mr. John Taylor (National Temp. League); "Our Foreign Guests," by Dr. T. L. Wright, reply by Rev. Dr. Koch (Holland); "Legislation for the Inebriate," by Rev. J. W. Horsley, reply by Mr. William Johnston, M.P.; "Our Colonial Guests," from the Chair, reply by Rev. J. S. Smalley (New Zealand); "The Dalrymple Home," by Surg.-General Francis, reply by Dr. Cameron, M.P. (President); "The Ladies," by Dr. G. Harley, F.R.S., reply by Dr. E. P. Thwing (U.S.A.).

VISIT TO THE DALRYMPLE HOME.

A large party of the colonial, foreign, and provincial visitors, were entertained at lunch at the Dalrymple Home, Rickmansworth, on the following day, the 7th July. The guests, who went out by train from Euston *via* Watford, were conveyed by carriages in waiting at Rickmansworth Station to the Home, one mile distant; and were received by Canon Duckworth (the Chairman), Dr. Norman Kerr (Consulting Physician), Mr. Branthwaite (the Medical Superintendent), and the Committee of management.

After lunch, served in the spacious concert room, the guests expressed their delight with the charming grounds, their high opinion of the scientific and practical methods of treatment of the disease inebriety, and their gratification at the excellent results already attained.

LETTER FROM THE AMERICAN DELEGATES.

To NORMAN KERR, M.D., F.L.S., president of the International Congress on Inebriety, &c.

"Dear Sir,—The American delegates to the Congress just closed cannot be true to their sense of obligation to you and your associates without leaving with you some testimonial of our sincere regard for you personally, and of our admiration for the skill and energy you have displayed in the inception and conduct of the Congress, and in providing so sumptuously for the pleasurable entertainment of its members.

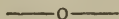
"For these courtesies we can do no less than thank you heartily, leaving with you the assurance that we shall bear you, and the occasion of our visit to England at this time, in our memory with the same feelings of grateful recollection as we now endeavour to express.

"We would refer especially to our visit to the Dalrymple Home for Inebriates on the 7th inst., which was a peculiar pleasure to us, in that it furnished a practical illustration of the truth and value of the doctrine upon which both the Societies for the Study of Inebriety in England and America are founded. We were delighted with the beauty and convenience of the location, while the evidence of efficiency in its management was apparent in all directions.

We can but sympathise with you in your efforts to secure a modification of the "Habitual Drunkards Act" by Parliament, so as to remove the obnoxious feature of requiring an applicant for admission to the Home to go before two magistrates and declare himself to be an habitual drunkard. Such a requirement seems to us to be in the highest degree offensive to the self-respect of any honourable person who may desire to avail himself of the advantages of the Home; and its removal from the Act is greatly to be desired.

"Above all, we have cause for mutual congratulations that an 'International Congress on Inebriety' is an accomplished fact. That it was attainable on such a scale, and with such a dignified and influential representation, from England especially, was a matter of considerable doubt. That doubt is now removed, and the cause has received an impetus and an inspiration from the proceedings of the Congress, which must be felt in all the nations of the earth.

"(Signed) JOSEPH PARRISH,
T. D. CROthers,
T. L. WRIGHT,
W. E. SCHERMERHORN,
*Secretary of American
Delegation.*"



THE BRITISH MEDICAL ASSOCIATION AT DUBLIN.

REPORT OF THE HABITUAL DRUNKARDS LEGISLATIVE COMMITTEE, 1887.

IN accordance with the instructions given to the committee at last annual meeting, the chairman asked for the reception of a deputation to the Home Secretary, to present suggestions for amended legislation for habitual drunkards. The Home Secretary, while "recognising the importance of the subject," did not think that the state of business in the House of Commons justified any hope of much progress in such useful domestic legislation, and postponed an interview to a more convenient season, when there should be a nearer prospect of being able to legislate on the subject. The committee thereupon laid the follow-

ing statement before the Prime Minister and the Home Secretary:—

The British Medical Association, which consists of nearly 12,000 medical members, has taken a deep interest in legislation on behalf of habitual drunkards, and the Council has authorised the Habitual Drunkards Legislative Committee to lay before the Home Secretary proposals for the renewal and amendment of the Habitual Drunkards Act, 1879, which was enacted for ten years only. In submitting these proposals, which have the assent of the Society for the Study and Cure of Inebriety, the committee desire to direct attention to the fact

that, incomplete and imperfect as that Act is, the Inspector of Retreats has reported 241 admissions, a number which would have been greatly exceeded but for the difficulty (referred to by Dr. Hoffman in his last report) of obtaining the applicant's signature in the presence of two justices. The committee also desire to record that of the patients discharged from the Dalrymple Home at Rickmansworth, whose after-history is known, nearly one-half have done well, while between 75 and 80 per cent. have received benefit from the treatment.

The Act is defective in many particulars:—

1. It will expire in two years more, unless it be renewed.

2. The entrance into a licensed retreat is rendered forbidding by the compulsory appearance of the applicant before two justices. This procedure is deterrent to both sexes, especially to females.

3. By a recent interpretation on the part of the Home Office, the two justices must be "in the commission of the peace for the county in which the attestation is made." This renders the securing of the necessary two justices more difficult than before, as it frequently happened that a justice from an adjoining county was on a visit to the justice to whom the habitual drunkard applied in the first instance; and there are few justices in the neighbourhood of some retreats.

4. In the event of escape from a licensed retreat, the compulsory appearance of the patient before a justice is a penal procedure which exercises an untoward influence on the after-treatment in the retreat.

5. There is a want of power over correspondence and remittances forwarded to patients while under treatment. The possession of money, frequently sent by injudicious friends, is a powerful temptation to escape for the purpose of procuring liquor.

6. There is no authority in the Act for the appointment of a deputy in the absence of the superintendent from illness or other causes.

7. There is a total absence of provision for the cure and control of the

destitute habitual drunkard, and for habitual drunkards in all stations of life who are unwilling to apply for admission into a retreat.

In the United States, and in some of our own colonies, there is better and more effective legislation. In Victoria, for example, a permanent Act, passed in 1872, provides for voluntary application by a patient to one justice only, who has power to authorise the apprehension and conveyance of the applicant to a retreat. Any relation or friend of an habitual drunkard may apply to a county court judge, who can summon the inebriate to show cause against committal to a retreat. On a statutory declaration by two medical practitioners, the judge may order the inebriate's apprehension and committal to a retreat for any period not exceeding twelve months. Patients may be re-taken, after having escaped, by any officer or servant belonging to the retreat, by any constable, or by any person authorised in writing by the superintendent, and be conveyed back to the retreat. Letters for patients must be enclosed in an envelope addressed to the superintendent. The superintendent may appoint a substitute to act with full powers during temporary absence.

The committee recommend that the following amendments be suggested to the Home Secretary and to the Houses of Parliament, which amendments the committee believe would greatly aid in the reformation and cure of numbers of habitual inebriates, who at present are beyond the reach of all moral and remedial influences.

1. A permanent measure instead of the present temporary Act.

2. In the case of voluntary applications for admission attestation by one justice instead of two justices, as at present; the signature of applicant to be attested at the house of the applicant or elsewhere.

3. The escaped patient, instead of, as at present, after recapture on a warrant, having to appear before a magistrate, to be sent back to the Retreat from which he had escaped direct, immediate notice being given to the Secretary of State of his return to the retreat.

4. Power to licensee to open all correspondence, if he should think necessary, in the presence of the patient, and to retain any money-enclosures, postal-orders, or cheques. A memorandum of the amount to be handed to the patient.

5. Provision for the appointment of a deputy medical superintendent or substitute, during temporary absence of superintendent.

6. Magistrates to have power to commit well-defined cases of habitual drunkenness to a Retreat for care and control, without consent of the patient.

7. The Metropolitan Asylums Board, and other like authorities throughout the kingdom, to have power to make provision for the care and treatment of habitual drunkards of limited or no means.

8. Guardians to be empowered to detain paupers who are habitual drunkards for a period not exceeding twelve months, for treatment either in the particular workhouse, or in some licensed Retreat, with power in the latter case to pay for their maintenance.

Meanwhile the committee respectfully urge the discontinuance of the limitation of the two attesting justices to the county where the attestation is made.

The committee further felt that the approaching expiry of the Habitual Drunkards Act in 1889 called for some active steps to prepare the way for a permanent and, if possible, improved measure. After conferring with Dr. Cameron and other friendly members of Parliament as to the provisions most likely to meet with Parliamentary approval, a Bill was drafted, and introduced into the House of Commons, backed by Dr. Cameron, Sir Walter Foster (the president of our Council), Sir Trevor Lawrence, and Sir Lyon Playfair. This amended Bill provides for (1) the permanence of the Act of 1879, as amended; (2) the attestation of the signature of the applicant for admission to a licensed Retreat for Inebriates by one justice, instead of two justices, as at present; (3) power to the superintendent of a Retreat to appoint a substitute during temporary

absence. The Bill, as introduced into the House is as follows:—

"A Bill to amend the Habitual Drunkards Act, 1879."

"Whereas the Habitual Drunkards Act, 1879, is limited to expire at the expiration of ten years from the passing thereof and the then next session of Parliament; and whereas it is expedient to provide for the continuance of the said Act, and for the amendment of the same; be it therefore enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

"1. This Act may be cited as the Habitual Drunkards Amendment Act, 1889.

"2. So much of the second section of the Habitual Drunkards Act, 1879, as provides that the said Act shall be in force until the expiration of ten years from the passing thereof, and to the end of the then next session of Parliament, is hereby repealed; and be it enacted in lieu thereof that the aforesaid Act as amended by this Act, shall be and remain in force until otherwise provided by Parliament.

"3. Subject to the approval of the Inspector of Retreats, the licensee of any Retreat may from time to time appoint a deputy to act for him during his temporary absence, and such deputy shall during the absence of the licensee have all powers and be subject to all the duties given to or imposed upon the licensee of such Retreat under the provisions of the aforesaid Act.

"4. So much of Section 10 of the Habitual Drunkards Act, 1879, as provides that the signature of an habitual drunkard applying to be admitted to a Retreat shall be attested by two justices of the peace is hereby repealed; and in lieu thereof be it enacted that the signature of such applicant shall be attested by a justice of the peace, subject to the provisions with regard to attestation in the aforesaid section prescribed.

"5. The Habitual Drunkards Act, 1879, and this Act, shall be read, and construed together as one Act."

The Colonial and International Congress on Inebriety, held in London this year, has brought together much valuable information on the legislation in our colonies and in other countries, and will exercise a powerful influence in creating an enlightened public opinion which will eventuate in adequate provision for the care and cure of habitual drunkards of every rank in life.

As our own legislation is so far behind that of most of our own Colonies and of the necessities of the case, the committee recommend their re-appointment as follows:—The President and the President elect *ex officio*; Dr. N. S. Kerr, Chairman; Sir B. W. Foster, M.P., M.D., President of Council; D. B. Balding, Esq.; H. Branthwaite, Esq.; Dr. T. Bridgwater; Dr. C. Cameron, M.P.; Dr. A. Carpenter; Dr. C. R. Drysdale; Dr. J. W. Eastwood; Surgeon-Major G. J. H. Evatt; Dr. R. Farquharson, M.P.; W. C. Garman, Esq.; Dr. J. Hill Gibson; Dr. A. Grant; Dr. C. J. Hare; C. Holthouse, Esq.; H. R. Ker, Esq.; R. H. B. Nicholson, Esq.; Surgeon-Major G. K. Poole, M.D.; J. Pranker, Esq.; Fleet-Surgeon G. Robertson; Dr. Joseph Rogers; Dr. G. D. P. Thomas; Dr. H. W. Williams; Surgeon-General C. R. Francis, and Dr. E. H. Vinen, Honorary Secretaries.—NORMAN KERR, M.D., Chairman.

On Tuesday, 2nd August, the report was considered and adopted by the Council.

ALCOHOLIC STIMULATION.

In his opening address as President of the Medicine Section, on the 2nd August, Professor W. T. Gairdner, M.D., of Glasgow, said:

I am tempted at this point to allude to another instance of changed practice occurring within our own day, and applied, or applicable, over a very wide area of disease. I do not know if in this instance I can count upon the assent of all of you to the revolution being a *fait accompli* even now,

nor will I venture to affirm that the terms in which it must be stated are final; but as the Public Orator of the University of Dublin furnished some of us only the other day with an epigrammatic statement of it in the words *lacte non vino** perhaps a very few minutes may be devoted to the consideration of it, as briefly and as impersonally as is possible in this place.

All of you who have read (as who has not?) the late Dr. Murchison's classical volume on *Fevers* must have been struck with the historical summary he gives, with such minute accuracy, of the confusion arising out of the names of the continued fevers adopted by Cullen—synocha, synochus, and typhus; the first, corresponding with the fever of high reaction, or so-called inflammatory fever (perhaps the *καύσος* of the Greeks); the last with the low nervous fever, or fever of debility, and partly with the malignant or putrid fevers of some of the older authorities. Now, as a general rule, it is hardly too much to say that while the employment of blood-letting and other evacuant methods was at one time universal, or nearly so, in the synocha, recognised as such; the treatment of typhus, when frankly admitted as typical, and as tending to debility and nervous exhaustion, has leaned as a rule, during at least the last seventy years, in the direction of alcoholic stimulation. Synochus, as a merely intermediate or indeterminate form, may be here excluded from consideration; but it is important to remark that, up to the time to which my own recollections of current medical doctrine extend, the idea prevalent

* The following sentences from Dr. Webb's oration at the honorary graduations on 30th June, though subject to correction in at least one point of detail, may be permitted here as a humorous statement of the case, to be preserved in connection with the present address: "*Febris fanum, ut memoriae tradidit Cicero in Palatino quondam stetit—inter colles Glasguenses nunc simile stat fanum. Hospes noster, quem nunc salutamus, ejus est Antistes (?) et quod mirum, lacte non vino numen illud detestatum se placavisse gloriatur.*"

was that epidemic continued fevers oscillated between synocha and typhus, in cycles of years; and that the treatment, in order to keep pace with the constitution then existing, had to be regulated according to the "epidemic type," which, judged by the experience of those who had been watching the progress of events, could be said to represent the general tendency, according to the all but universally received doctrine of the "change of type." This doctrine, which may be traced back, though not under the same name, to Sydenham, was strongly held in Edinburgh when I was a student; and when the relapsing fever of 1843 (a true synocha according to the old definitions) somewhat suddenly appeared, it was held to be a "nova febris," quite distinct from the mixture of typhus and synochus which had held the field for many years before. Dr. Christison alone recognised the fever of 1843 as identical with the synocha observed in 1819, and at that time treated (as Dr. Murchison has clearly shown) by copious venesection with the supposed result of cutting it short at the close of the first week; a strictly normal crisis, however, of the fever itself (as observed in 1843), and quite erroneously attributed to the remedy.

But it is not with the depleting practices in epidemic fevers that we have to do in the few minutes more that I claim your attention; but rather with the reaction against these, which in Edinburgh we always associated with the venerated name of Alison, and which in Dublin was no less characteristically set forth by a man of very different genius, but equally earnest, and equally devoted to his art—that great Irish physician who has left us his testimony in three notable words which, he said, might be inscribed upon his tombstone—"He fed fevers." It is not in this city that the practice of Dr. Graves, especially in typhus fever, requires to be explained or commented on, or even brought to mind as an historical fact: but I think this famous phrase was perhaps the first distinct recognition in Ireland of what is now one of the common-places of medical doctrine—that febrile disease

of all kinds, being essentially a wasting process, requires to be met by such treatment as will preserve rather than exhaust, what remains of the powers of life, and especially the greatly weakened functions of alimentation, digestion, and textural nutrition. Nor is it necessary to suppose that either Graves or Alison had anticipated, what came about in the course of time, the extension of this general doctrine to nearly the whole field of disease, and the disappearance, under its influence, of a host of depleting and debilitating practices. But what is quite clear is that in typhus fever, as it occurred epidemically some time between 1819 and (say) 1829,* the idea first took root in some of the most prominent minds in the medical profession, that alimentation, not depletion, was the proper practice to be pursued in most of the epidemic fevers. In Dr. Alison's case this idea was practically determined to some extent, by his favourite notion of a "change of type;" and when "synocha" reappeared in 1843, it might, perhaps, have been expected, according to his theory, that he would have reverted to the old practices; but I have no evidence and no recollection of his having done so. In typhus, however, his practice was undoubtedly and emphatically, one of stimulation; leaning, perhaps (though I am by no means so sure of this), more to the side of alcoholic stimulants, and less to that of food, than the practice of Dr. Graves. But in any case, the practice of both was guided by the same essential principle; that of supporting the strength, and so warding off the tendency to death by asthenia. This, too, he used himself to expound to us as really quite

* The former date is that of the epidemic chronicled in Dr. Welsh's book: the almost indiscriminate use of the lancet being the leading feature of the practice as described at that time. The latter is the period usually assigned by Dr. Alison himself as the limit in time to the appearance, within his own experience, of fevers that would bear depletion; and the probable date, therefore, of the more decided adoption of the opposite practice.

in accordance with the Cullenian tradition; inasmuch as Cullen's principle was, in fevers, to "obviate the tendency to death," rather than to adopt any violent or perturbative treatment.

But while the general plan or idea of supporting the strength in epidemic fevers may be said to have had its origin thus early, the modes in detail of carrying out that principle must have varied almost indefinitely; and it is probably quite safe to say that the general principle of Dr. Graves, to "feed fevers," became gradually merged, with some, in a process of high alcoholic stimulation as a substitute for feeding. It is very difficult to say how far individuals were responsible for the advance and development of this tendency in London, Dublin, or Edinburgh respectively; but the name of one very eminent Irishman who had attained a reputation of the highest kind in London, began, twenty years later, to attract attention as representing a kind and degree of stimulation, not only in fevers, but in almost all acute diseases, which had previously been very unusual, and had probably never before been advocated so ably or in such seductive and uncompromising language. You all know well the name of this most able compatriot of Graves and Stokes; but as I have been accused by one at least of his countrymen of disrespect for his memory in submitting his opinions to professional criticism, even in the most carefully guarded language, I will avoid as far possible any needless allusions to him in this address, which, may, possibly find its way into other than medical hands. The theory adopted, however, was that alcohol is not only a real food, but that it is the food of all others—perhaps, indeed, the only food—to be relied upon for supplying the material of repair in fevers, thus compensating the waste and averting the functional exhaustion characteristic of most acute diseases. The practice associated with this theory was the subordination of all other nourishment (with the possible exception of beef-tea) to alcoholic liquors, and especially to brandy given in high doses con-

tinuously from half-hour to half-hour all day and all night, during the currency of severe cases of acute disease, and almost without any exceptions. So little, indeed, did the previous habits of the patient, the age, or the sex, count in this administration of alcohol, that a nursemaid, aged eighteen, had 48 ozs. of brandy per diem at the height of her disease, and between four and five gallons in all; a rheumatic girl had six drachms of brandy every hour; and another girl, aged fourteen, far gone in organic disease, had several gallons of brandy in the course of a few weeks. These practices were, no doubt, conscientiously pursued and conscientiously defended; but the practical result of them was such a widespread, and apparently irresistible professional bias towards the prescription of alcoholic liquors, especially in England and in the metropolis, that some of the leading physicians both in London and in the provinces, some years afterwards, found it necessary by a distinct manifesto,* which was largely signed, to dissociate themselves formally from an excess which in their deliberate opinion tended very decidedly both to moral and to physical evil, and made the profession at large appear to be partakers in the blame justly due to those who needlessly or recklessly foster habits of intemperance.

More than seven years before this point had been reached, however, in the opinion of these eminent English physicians, it had been shown in a Scottish hospital that in the one principal disease in which the entire

* The history of this famous Declaration, as well as the substance of it, and some of the signatures to it in detail, will be found in the *Journal* for December 23rd, 1871, p. 737; and a more complete list of the signatures is given in the *Medical Times and Gazette* of the same date, p. 778. The opposite side of the question, professionally, in so far as it appears in the remonstrances of some of those who objected to this Declaration, will be found in the *Journal*, for December 30th, p. 788; *Lancet* of same date, p. 931; *Medical Times and Gazette*, December 23rd (all of 1870), p. 779.

medical tradition was unequivocally in favour of stimulation—namely, typhus fever—success was to be attained in treatment, not by increasing, but by very considerably reducing, the amount of alcoholic stimulants administered; and this, as compared with an amount which, even at its maximum, fell far short of that which was habitually prescribed in London. This inquiry was brought about, in the first instance, not by any *à priori* considerations, and still less by any fixed opinion adverse to the medicinal use of alcoholic stimulants, but by the fact that the author of it felt himself under an obligation to justify to one of his senior colleagues the mode of employing these stimulants at which he had arrived as the result of personal experience, and, in doing so, was compelled to investigate as carefully as possible, and as far as possible numerically, the whole of the data available in that particular epidemic and in that particular hospital. The results of this inquiry were communicated to the *Lancet* in March, 1864;* and this was followed up by several other papers, and particularly by one on "The Limits of Alcoholic Stimulation in Acute Disease," read to this Association at Oxford in August, 1868.† It would be vain to attempt here, at the close of this long address, even the most imperfect statement of these results. The one thing about them is that they have been accepted, without having ever been seriously assailed. It may now be regarded as a position

established by evidence, that in typhus fever, and therefore, *à fortiori*, in other fevers and in all diseases attended by febrile debility, alcoholic stimulants are not the only nor yet the best form of alimentation; that their proper use is as medicines, and this within limits; and that, as a rule, also within such limits as are suggested by reason and easily attainable in practice, milk (which during the alcoholic fanaticism had been nearly lost sight of) is in reality the food which is for the most part more easily digested and more conducive to success than almost any other. And thus the epigrammatic motto of your University orator, *Lacte, non vino*, has received, I trust, at once its seal and its justification.

ALCOHOLISM AND INEBRIETY.

Dr. NORMAN KERR read on Thursday, 4th August, in the Medicine Section, a paper on this subject, in which he said that the term "alcoholism" had been somewhat loosely employed. Some at random applied it to all moderate and immoderate drinking, or any kind of intoxication. Others restricted it to the mental and moral, exclusive of the physical, phases of drunkenness. This confusion probably arose through ignorance. Only of recent years had the existence of the disease inebriety been recognised. Alcohol was an irritant narcotic poison, and the term alcoholism should be limited to the toxic phenomena directly or indirectly arising from the action of alcohol on body and brain. This included acute alcohol poisoning (fatal and non-fatal), and chronic alcohol poisoning: all the functional disturbances and tissue degenerations of various doses, the vitiation of the blood, the circulatory tumult, the nervous perturbation, the vaso-motor paralysis, the cerebral automatism with the incomplete paralysis (with or without unconsciousness), of transient alcoholic excitement; as well as the tremors of delirium tremens, the madness of "mania a potu," the depraved digestion, the cerebro-spinal paralysis, delusions and insanity of more permanent and graver lesions. Under alco-

* See *Lancet*, March 12th, 1864, p. 91, "Facts and Conclusions as to the use of Alcoholic Stimulants in Typhus Fever;" and also leading article, March 26th, 1864, p. 357. The other papers here referred to in the *Lancet* are as follow:—"Clinical Observations on the Course of Typhus Fever, and especially on the Phenomena of the Crisis," January 21st, 1865, p. 57 (remarks on Milk as a Food, p. 58), and "On the Treatment of the Acute Diseases of the Chest," January 13th, 1866, p. 29, and January 20th, p. 59 (especially the latter paper).

† *Glasgow Medical Journal*, November, 1868, p. 15.

holism would also be ranged the mental and moral depravities induced by alcoholic intoxicants, as well as the inherited proclivities to excess, brain instability, and feeble will begotten of alcohol. Fatty and other degenerations of liver, heart, kidneys and other organs, were also included. Inebriety on the other hand, was a disease of the higher nerve centres, allied to insanity, which might or might not be of alcoholic origin. This disease consisted in a morbid impulse to, or crave for, intoxication. The intoxicant consumed might be any narcotic. It was the immediate, though evanescent, relief which was sought, the inebriate often hating the inebriating substance. Inebriety was, therefore, a true intoxication mania, or, as Dr. Kerr proposed to call it, *narcomania, i.e., a mania for narcotism.* Inebriety or *narcomania* assumed various forms. There was alcohol, opium, chloral, chloroform, chlorodyne, ether, or cocaine inebriety. The disease might be constant or periodic, solitary or social, with periodicities of function, nerve energy, time, occupation, climate, season, and occasion. There were the inebrieties of insanity, of syphilis, and of other diseases, of convalescence from fevers, of heat apoplexy, of operations, of head or other injuries (traumatic inebriety), and of nerve shock generally. The etiology and pathology of inebriety were of great importance to afford knowledge on which to base judicious treatment. Alcoholic trance, for example, was an obscure and extraordinary phenomenon, in which inebriates had awoke sometimes to full consciousness only to find themselves in a foreign country, though they had been able, automatically, to eat and talk and act like others around them. The alcoholic, therefore, was but one form of inebriety, which might be inherited or acquired. All drunkards were not diseased, though even those often became so in the long run. There was sometimes alcoholic inebriety without the grosser symptoms of alcoholism, with no liver, heart, stomach, or other bodily disturbance, the nervous disorder being the only

ill-health. There was thus alcoholic drunkenness with no true inebriety, and inebriety or *narcomania* with no actual intoxication by alcohol.

DISEASE AND INTEMPERANCE.

In the Medicine Section, on Thursday, 4th August, the Secretary of the Collective Investigation Committee of the Association (Dr. Isambard Owen), appointed to inquire into the connection of disease with habits of intemperance, explained that with the view of facilitating the inquiry the following memorandum had been issued to the members of the Association:—"Few subjects among those that engage the attention of our profession at the present day are of greater practical importance than the question of the share taken by alcoholic drinks in the production of visceral disease, and of their influence upon the course and results of maladies in general. It is to be regretted that up to the present the stock of recorded facts open to the inquirer is far from being adequate to the gravity of the subject; our existing ideas being largely based on inferences from physiological experiment, on deductions from a limited number of cases, or on the general impressions of individual physicians. The Collective Investigation Committee believe that no work can more justly claim the attention of the members of the Association than an attempt to collect and combine, in as definite a manner as the nature of the subject admits of, the personal experience of the profession at large with reference to this very difficult question. The method of inquiry adopted, which has, after careful consideration, appeared to them to be that best calculated to yield trustworthy results, and the committee confidently hope that a very large number of the members of the association will be willing to undertake the small amount of trouble involved in filling up the annexed form as far as their knowledge of the facts extends, and returning it to the secretary."

Dr. Owen stated that the form of inquiry paper was suggested by Dr. Edward Casey, of Windsor, and in the following form:—

Alcoholic habits—the five classes.

Class A.—Total Abstainers. Class B.—The habitually temperate, *i.e.*, men who drink small amounts, and only with meals, and rarely take spirits, except for medicinal purposes. Class C.—The careless drinkers—men who, without being “intemperate” or “free drinkers,” yet do not confine themselves within a rigid rule; who do not demur to drinking spirits occasionally as a beverage; who may at times drink between meals, or even to the extent of intoxication occasionally, but who do not make these practices a habit; and, on the average, do not materially exceed what has been termed the “physiological” amount of $1\frac{1}{2}$ ounces of pure alcohol daily. Class D.—The free drinkers—men who “drink a fair amount” or “take their wine freely,” habitually exceeding the “physiological amount” to a material extent; but yet who cannot be called “drunkards” or considered to have forfeited a character for sobriety. Class E.—The decidedly intemperate—“Drinking men,” “hard drinkers,” and “drunkards.”

The number of returns received was 178, the cases reported upon being 4,234, of which only 122 were total abstainers. Dr. Owen, after referring in some detail to the result of inquiries, said: On the whole, then, in addition to the information we obtained from these returns as to the average alcoholic habits of this country and as to the relative habits of different classes of men, we may not unfairly claim to have placed upon a firmer basis of fact the following

Conclusions.

1. That habitual indulgence in alcohol beyond the most moderate amounts has a distinct tendency to shorten life, the shortening being on the average fairly proportional to the degree of indulgence.
2. That the strictly temperate who have passed the age of twenty-five on the average live at least ten years longer than the decidedly intemperate. (On the relative duration of life of total abstainers and habitually temperate drinkers of alcohol, the investiga-

tion, as we have seen, affords no light.)

3. That in the production of cirrhosis alcoholic excess plays the very marked part which it has been long recognised as giving, and that there is no other disease, except gout, anything like so distinctly traceable to the effects of alcohol.

4. That on the whole cirrhosis, apart from the effect of alcohol, is rather to predispose the body towards the attacks of disease generally than to induce any special pathological lesion.

5. That in the etiology of chronic renal disease alcoholic excess probably plays a special part.

6. That there is no ground for the belief that alcoholic excess leads in any special manner to the development of malignant phthisis, senile phthisis possibly excepted.

7. That the tendency to apoplexy is not in any special manner induced by alcohol.

8. That the tendency to bronchitis is not affected in any special manner by alcoholic excess, unless perhaps in the young.

9. That the mortality from pneumonia and probably that from typhoid fever are not especially affected by alcoholic habits.

10. That prostatic enlargement and the tendency to cystitis are not especially induced by alcoholic excess.

11. That total abstinence and habitual temperance augment considerably the chance of a death from old age, or natural decay, without special pathological lesion.

I have omitted from this abstract the question of the production of gout and its possible intermediary influence upon the production of granular kidney, as this portion of the report is not quite complete. It is much to be regretted that the returns to this inquiry were not far more numerous. The conclusions drawn from the returns would have much more weight had we been able to have them upon ten or twenty thousand cases instead of 4,234. Should the publication of this report rouse fresh interest on the subject it would be possible to re-issue

the inquiry, and to double or quadruple the number of returns, but the Collective Investigation Committee would not feel justified in doing so without some decided expression of opinion by the members of the Association that the re-issue should be made.

Discussion.

In the discussion that followed, Dr. CUMING, Dr. DRUMMOND, and others, offered some remarks.

Dr. NORMAN KERR observed that from only 4,234 cases it was impossible to infer what proportion of the 700,000 deaths that took place in the United Kingdom in the year was to be ascribed to alcoholism. He believed that other investigations gave about 40,000 as the annual proportion of direct deaths from alcoholism.

Professor GAIRDNER said it was impossible fully to discuss the paper at present. He wished there had been more materials in it to enable him to determine a question which he had to discuss every year, namely, whether phthisis was prevented and restrained, not merely by the use of alcohol in moderation, but by actual habits of inebriety. He had been informed by a professional man, who had made *post-mortem* examinations of the bodies of a number of confirmed sots, that he had very rarely found tuber-

cles in any of them. That was a very curious fact. It might be that tuberculosis made those who laboured under it less disposed to alcoholic habits than others. A Scotch judge, who made it a point to observe the personal habits and qualities of rising advocates, used to say of some of them—"A good young fellow, but he'll no do much; he can't take his drink."

Surgeon-General GUNN said that during twenty-five years of military service numerous cases of phthisis in soldiers beyond forty years of age had come under his notice in which the disease developed rapidly and proved fatal, and which he could not ascribe to anything else than alcoholic habits. A great number of cases of apoplexy that he traced to excessive drinking had also come under his notice.

Dr. GILBART SMITH said he was himself a total abstainer of ten years' standing, and his experience of phthisis was that it could not be successfully treated without, at all events, a fair quantity of alcohol. Before he became a teetotaler he never had a twinge of rheumatism, but since his adoption of total abstinence he had had both gout and rheumatism.

Dr. J. J. RIDGE stated, that in the Temperance Hospital he had successfully treated cases of phthisis without a single drop of alcohol.

THE ANNUAL TEMPERANCE BREAKFAST.

On Thursday morning, 4th August, a breakfast was given in the annexe of the Leinster Hall, Dublin, to the members of the British Medical Association by the combined temperance societies of Dublin. Mr. Henry Wigham presided, and upwards of 300 members of the medical profession accepted the invitation to be present.

Grace was said by the Rev. Dr. Delaney, Catholic University, thanks being returned by the Rev. W. Davis Atkins.

After breakfast, the CHAIRMAN said: We feel great pleasure indeed that so many gentlemen of the medical pro-

fession have honoured us with their company this morning. We feel deeply indebted to them—many of them for their labours in connection with this temperance movement, in which we are all so much interested. On behalf of the various temperance organisations in this city, I wish all our friends a hearty welcome. It is certainly a great honour to have so many eminent medical gentlemen present on this occasion. I was greatly interested in reading the inaugural address of the president of the Medical Congress, and in his allusion to some eminent doctors of Dublin of the past genera-

tion. Amongst them he alluded to Dr. Cheyne, who was not only an eminent physician, but one of the pioneers of this temperance movement; and he also mentioned the names of Dr. Hardy, Dr. Orpen, Dr. Adams, and others, also eminent members of the medical profession in this city at one time. Now, I am glad to say that we have amongst us at present many doctors who are warm advocates of temperance. I need not allude to them by name, as they are here present. There were some of them whose works were as household words, and we thank them now for what they have said and what they have written. I recollect the time when the temperance movement, or total abstinence, was looked upon as a non-medical thing; but all this has passed away, and the testimony of many eminent men was now against not only the abuse, but the common use of alcohol. I will not further occupy your time, but simply call upon some of the eminent gentlemen present to address you, and on behalf of the temperance workers in this city I have to express our deep thankfulness to them all. The first gentleman I will ask to address you is Dr. Norman Kerr.

DR. NORMAN KERR, on rising, was loudly applauded. He said: Mr. Chairman and gentlemen, it affords me very great pleasure indeed, after an absence of thirty or thirty-five years, to be in this city once more, and to lift up my feeble voice on behalf of the great cause which has brought us here this morning. It is a matter of no surprise that total abstinence should exist in the land of Father Mathew and Dr. Cheyne, to whom you have alluded, and who had laid the foundations deep and sure of total abstinence; and that that cause which was now spreading, though slowly, was certain to succeed in the end. If to Ireland we come to look for the cause of disorder—if in Ireland they did much for the cause of political disorder—in the shape of alcoholic disorder—alcohol which had the tendency to disturb men's brains—if we are indebted to

Ireland for the manufacture, production, and dissemination of this thing, we have to thank Ireland that she has done not a little to counteract it, for to Ireland we are indebted for one of the first total abstainers in the world. Now, as medical men, whether we carry out the principle of total abstinence or not, we are agreed on this—and it is said that doctors do differ—we are united in opinion in regard to this fact, that narcotics of every kind have a tendency to cause an abnormal and unhealthy condition of the body and brain. It is an axiom of medicine, in fact, and it is impossible for any honest man to come before them and deny the A B C of the temperance cause. Whether it be dangerous or safe to take intoxicating liquor in small quantities, the tendency is always there, and the danger was always there, too; although some men might be able to resist it better than some weaker brothers. Intoxicating liquors were a danger to mankind, although, as I have said, some, of course, have stronger constitutions than others, and are better able to resist the ill-effects. Wherever intoxicating liquor is made use of, I repeat, there is danger—there is danger so long as it is there—morally, mentally, and physically; and by the oath I took when I obtained my degree, I am bound to abstain from that which is dangerous, whether it is dangerous to me or to the community, all the same. I am agreed on this point with Dr. Cheyne. We are united with all political parties—with every member of the profession throughout the world—to set an example, so far as we can with one common accord, that total abstinence is for the benefit of all; that abstinence from intoxicating liquors would be beneficial to the health, and the happiness, and the morality of the whole human race. That is my total abstinence creed. Others may experiment on the system by allowing minute doses. My point is this—and it is one that cannot be dislodged—that where there are intoxicants there is an element of unsafety, and it has the tendency to be the enemy of the

soul, and the community, and the State; and as patriots, whatever our creed may be, it is our duty, on every opportunity that we can, to lift up our voices in favour of the total abstinence cause, and do anything we can to add to the common weal. The tendency of morality and religion, and good government, and the professions, such as that of medicine, is in the higher direction, but the tendency of intoxicants is in the lower direction. The tendency of intoxicating liquors is to lower men's minds, and injure their health. No man absolutely needs alcohol. Most men would be better without it; and its tendency, as I have already said, is to draw men down lower and lower, both in this world and in the next.

Dr. T. GILBART SMITH (London), who was next called upon to address the meeting, was received with applause. He said: Although I have lived fifteen years in London I have not left my native city long enough to make me feel myself a Saxon. Now, I remember reading of old that there was a certain belted knight, who, on arriving at the embattlements of a certain city, found himself met by a gate, and over it the words, "Be bold;" and further on he was met by another gate, with the words over it, "Be yet more bold." Going further on he came to a third gate, and the words over it were—"Be not over bold." Now, sir, to the gentlemen in this room this morning, I would say, "Be bold," and also to look at the two sides of the question. I remember, so long as I was on the one side of the question I argued very splendidly and capitally upon the reasons that showed me I should not be a teetotaler; but as soon as I crossed the line I became a total abstainer; ten years ago I laid all my former reasons aside, and have found nothing since to reinstate them. If gentlemen would only "be bold" and cross the line, and give up the use of stimulants, they would find, apart from all political or social reasons, that they had abundant reason within themselves for not repenting the step they had taken. As doctors, and speaking as a doctor to doctors, there

is one thing I would say, that is, to those who are bold enough to abstain from stimulants themselves. I would advise them to be "yet more bold," and no one could tell how much could be done in carrying out the abstinence treatment in medicine—not to the entire extent, but to a large extent, until they had tried it themselves on their patients. My position, as physician to a large charity, has given me an opportunity of seeing this, and I have been greatly struck with the result. I speak from a good deal of experience in such cases as inflammation of the lungs, acute pneumonia, and some phases of chronic disease; and I have found that the bolder I am in abstaining from stimulants the more bold I will become. There is one thing, however, I would not like to be, and that is to be "over bold." There is a danger to this temperance movement, and it is this, that we might become so enthusiastic that we would look at everyone from our own standpoint, and we might do a good cause—a national cause—a great injustice by pushing our temperance views in an unwise direction. I would show by my example, by health, and by longevity, if possible, what total abstinence does for me; and I would like to leave my neighbour and friend untrammelled with any cords. We cannot advance our cause by pushing it down other people's throats. Our cause can be promoted better by example than by sermonising. Now, with regard to alcohol and its use; when tenants were on good terms with their landlords in this country, there was a tenant, I remember, who heard that his landlord was sick. That gentleman (the landlord) was a man who weighed 26 stone, and, of course, was of considerable dimensions. He was like one we have heard of whose servant exclaimed, "Hould this, yer honour, and I will be round ye in a minute." In this case the affectionate tenant came and asked the servant how the master was. "Be gorra, Mike," said he, "the doctor has just been here." "Now, John, what suction is he able to take?" "Oh, the doctor says he is to take a teaspoonful

of brandy." "You don't mean a teaspoonful of brandy? What, I ask you, would a teaspoonful of brandy do wandering about in a wild wilderness of a man like that?" These are my sentiments to a large extent, and I recommend those sentiments to my friends in connection with this movement in Dublin; and now in the name of the visitors from London I may be allowed to express our great thanks for the exceeding hospitality we have received here, and for being invited to this temperance breakfast.

Professor THWING, of Brooklyn, New York, who was next called upon to address the meeting said: We in America join hands with you in the United Kingdom in showing a front against all intoxicating liquors—and the eyes of the civilised world are turned on you—ready to support you in this cause. We all join in support, as I do here in person, in those glorious festivities which have marked this half century of queenly rule. England and America are at one in this glorious work of temperance reformation, and we have to take care that nothing is done to undermine it. In America we have an Empire of great proportions. A single State there, for instance, would be as large as Germany, larger than Austria, but the millions in that country are united in sympathy with the plan of the temperance associations. I will take my seat with repeating the cordial salutations which I bring from America to you from the medical profession there, as well as from others. From this time forward let us feel that we are in true sympathy—we may disagree politically or socially, but let us look to the points on which we are agreed—in regard to this noble temperance reformation.

Dr. MORTON (Nenagh) next addressed the meeting. He said: I think that if every medical brother would make it his business to read our quarterly *Medical Temperance Journal* it would be a matter of some importance. Let me allude to a few points that have been brought forward lately in the *Journal*. Dr. Norman Kerr, whom we have had the pleasure of

listening to, has demonstrated to us the pure pathological condition before drink comes in—a condition that may be imperceptible until, under the influence of some great nerve shock, a sudden craving for drink bursts forth. That is an important point, I think, because it is but reasonable to suppose that that condition could never become developed if it had not been fostered, fed, and pandered to, by the use of alcohol in strict moderation, and in concurrence with the social habits of the country. The eyes of the civilised world have been lately attracted to the cures effected by M. Pasteur in cases of rabies. The number of deaths lately had been above the average, there being thirty-nine deaths from hydrophobia in the whole of France. What was that compared to the number of deaths from alcohol, which was estimated at 40,000 in a year? A great number of medical men in this country are not particularly identified with us as members of the Association, but practically they are with us. I think the general belief amongst us is that the proper place for alcohol is the medicine chest, and I say that when we have realised our position it is our duty, so far as lies in our power, to lead and direct the public mind.

Dr. J. J. RIDGE (Enfield) said: After the eloquent speeches which you have just heard, I do not think I should occupy your time very much. Some three years ago I had the pleasure of coming to Dublin for the first time at a meeting—a breakfast meeting arranged by the Dublin Total Abstinence Association—for the purpose of establishing a special Irish branch of the British Medical Temperance Association. I am proud to say that that child has prospered, that it has thriven, and that it has thriven so much now that it is already a parent—and the North of Ireland branch was established about a year ago in Belfast. Both these branches of our Society are now thriving. I am glad to say, also, that a considerable number of the medical students have become associated with the Association, and this we look upon as an omen of great promise for the future. It is very

difficult, I know, for medical men who have been in practice for a considerable time—who did not in their youth have their attention directed to this question—who have been practising the system of moderate drinking themselves for a considerable number of years, and who have been recommending all kinds of stimulants to their patients, it is very difficult for them later on to begin to speak in another voice, and thereby acknowledge that they have been mistaken, to some extent, in the past. It requires a considerable amount of moral courage to do this; but I hope we acknowledge we are getting wiser as we get older. I feel it is of importance that medical men should take up a definite position on this question, and that definite position has been very well put by Dr. Norman Kerr and other gentlemen, and that is that we should speak to the people, or tell the people in some manner, that alcohol is a narcotic which interferes with the natural action of the human brain, and affects the body generally. A friend was saying to me this morning that he was not a total abstainer, but that he was temperate in all things. I have often had that remark made to me before, and I have always endeavoured to point out to the friends who had done so, that, as a matter of fact, they were already total abstainers. This, as a rule, is a surprise to them. I tell them, "You are total abstainers from opium or from chlorodyne. Why should you be afraid of being a total abstainer from alcohol, because this is one of the class of poisons that produces an abnormal condition of the human body through the human system?" The alcohol creates a craving for itself. I need not tell you that if it were the custom in Ireland to take ether the people would begin to think or feel that they could not do without it. As regards alcoholic liquors—whether they are desirable or necessary, I maintain that the present idea in some minds is erroneous, and the same thing would be said of any other poison to which I have alluded. Therefore, when we see the fallacy of this state of feeling, I think we may be

prepared heartily to advise people to abstain from all narcotics. I have been often grieved by finding that medical men—(I don't suppose you do it, but I know it is done)—I have found frequently medical men recommending patients, especially ladies, to resort to a tea-spoonful of brandy, or perhaps wine-and-water, for uneasy feelings or sensations, most generally connected with disturbed digestion, feelings of sinking at the chest, slight pain in the region of the heart, which they attribute to some failure of the action of the heart, and which we know to be secondary results of mal-digestion. They feel great relief from a little dose of alcohol that may be prescribed; but then the dose, without the doctor's knowledge, is repeated, but not in such small quantities, for the desire for the alcohol has been engendered. In many cases ladies in this way have been brought to a considerable amount of intemperance, if not to severe drunkenness. Persons get into that condition who are in the habit of resorting more and more frequently to little doses, and keeping up an abnormal state of the body from morning till night. Now, I have told you, and I maintain, that the prescription of alcohol as is so frequently done, I believe is pernicious advice. I say alcohol is a drug to be given for what it is worth, and to be given for no other reason. Like Dr. Gilbert Smith, who has just spoken, I have found in the London Temperance Hospital that we can dispense with alcohol. At all events, in my experience at the London Temperance Hospital, where I expected to use alcohol in certain cases of disease, I found no beneficial effect; but for a few years I have not used it at all, and conscientiously I say I have no reason to regret it. I see no greater mortality among my patients. I have seen cases in which I felt obliged, at one period of my life, to give alcohol, but I have treated patients without its use with the greatest satisfaction. And therefore I feel that we do give the stimulants I speak of when utterly unnecessary. I do want you to feel that you are custodians of the national health, and as you are told of the evils

of taking or prescribing alcohol, we ask you to lift up the standard against it, and by your example, as well as by your words, to indicate to the people generally that it is more desirable for them to abstain from it than to take it. That is what you can do, each in your own sphere. Then you can see the advantage of organising 350 medical men in connection with the Temperance Association, which we could not do if we did not bind ourselves together. There are quite as many practical total abstainers—that would be 700 who could declare themselves total abstainers, and I would wish that they would all unite in the one society as members. Our influence then would be doubled by such an accession to our ranks. I shall be happy to give the form of membership to any gentleman present who is willing and able to join us. Our subscription is very small, only 5s. a year, and we supply to every member the *Medical Temperance Journal*, which gives details always of what is going on in the medical world with regard to the present important question.

The CHAIRMAN said he had now the pleasure of introducing an American friend who would address the meeting—Professor Parrish.

Dr. JOSEPH PARRISH, in addressing the meeting, said: I have had great pleasure, Mr. Chairman, in meeting you here, and this great company, and what I have to say is this—that this question of temperance is the absorbing question at this time in the United States of America. I can remember, when a boy, when I became connected with an association for temperance (fifty years ago), when the moderate use of alcoholic liquor was required, not only as suitable, but as necessary in the ordinary business of life, and we have gone on from that view or that principle until the doctrine of total abstinence is the view of the people interested in the matter. At this time there are States in America that have passed prohibitory laws, and these have been carried especially through the influence of the Women's Temperance Associations, in which there has been a remarkable growth

in the country. These ladies are recognised in every State, and in every territory in the country. They have their headquarters here, there, and everywhere, and they are working sedulously for the benefit of the people. The American Medical Association, which is represented by delegates from every county and State throughout the country, has unanimously passed resolutions accepting the doctrine that we, as advocates of the physical side of the temperance question, more especially shall adopt. The medical profession throughout the country is more or less identified with this great question, but more especially in the view which is adopted in the country for the physical cure especially of inebriates. When this was first announced throughout the country, there was opposition to it both by the clergy and the medical profession, but now things are changed, and what I say is the accepted view throughout the entire country.

The CHAIRMAN: I have now to call upon one of our most respected fellow-citizens—the Coroner of Dublin—to express his views upon the question before us.

Dr. NICHOLAS C. WHYTE said: My worthy friend, the Chairman, has just given me about two or three minutes' notice that he would ask me to say something, and although I cannot lay claim to say that I am not in the habit of doing so, my words must now be of a different character, because in my official capacity I have not all the facts before me. But I could not decline our worthy Chairman's request. I look upon myself as the representative of the unfortunate dead who have died of drink in this city during the last twenty years. I look upon myself as the representative of the thousands upon thousands of widows and orphans rendered destitute by drink. I could not now say all I would wish to say on the subject before us; yet I can say that my official experience is always a speaking testimony to the truth of what I have now said about the thousands that are rendered destitute by drink. The jurors over whom I preside, with Christian charity invariably

—where they are not forced to do otherwise by the evidence—render a verdict of “Death by natural causes,” “Heart disease,” and so forth; and, therefore, the Registrar-General’s return is made out in that way. Now, I say this advisedly, and after full consideration of the subject, that in an experience of twenty years I have known of not a single homicide committed in the city that was not the direct result of drink. My professional duties also make me aware of this fact, which I think is worth consideration. Of all the unfortunates that I have known to be criminally guilty of homicide, and have suffered the last penalties of the law (as I have heard from the prison chaplains), their conduct has been exemplary. I think I am right in saying that all the men died an exemplary death, thus proving that they were not men naturally criminal; that from the courses to which they had given themselves up, by frequenting public-houses and indulging in drink, they brought themselves to the lowest level. In conclusion I would only say, that although I am not a pledged temperance man, I cannot resist the appeal of Dr. Norman Kerr, and will now do all in my power by example.

Dr. A. H. JACOB (Editor of the *Medical Press and Circular*) next addressed the meeting. He begged to return thanks to the Chairman and Committee who had been kind enough to invite them to breakfast and meet together that morning, and not only that, but it would be a poor thing that they should go away without acknowledging the warmth of sentiment and enthusiasm with which the cause they all had at heart had been advocated by the various speakers. In reference to some observations of Dr. Norman Kerr, he thought they should be put in the way of extending temperance or preventing inebriety. He could not hesitate to point out, that while they appreciated the truth of what was said, it would be a difficult matter, and one which would require much more eloquence and length of time to convince the people that very minute doses of alcohol were greatly injurious to health

and to be avoided. In his opinion, the way to work this great question up was to bind men together, to show an example to each other in the way of abstinence and temperance. In times past, when this cause was taken up by Father Mathew in Ireland, such a banding together did not exist. Temperance was a ban on every man who practised it. He was a *helot* or *ostracised*. Now, he saw every week the temperance work extending. That was a very happy condition of things. The people should learn to know that there was no want of hospitality in not giving a friend in his house some intoxicating drinks. He saw by the morning paper that the principal industry in Dublin was the “porter industry.” He found other industries at a dead standstill, and the great Dublin brewery doubled its income in a year, and put by £200,000 to the next account. Truly that was an astonishing revelation. He should not be there that morning either to partake of the hospitality of the committee, or to make the observations he had done, if he did not think it incumbent on his part to try and instruct the public as to the non-necessity of alcoholic imbibition. He had never ordered alcohol himself unless coerced for medical purposes. He trusted every medical man who listened to him would do the same; that he would not pander to his patient; the practice of the profession now did not warrant the use of alcohol—and the new practice would be for the benefit of the community.

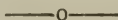
The CHAIRMAN: Now, I think, as we have heard so many of our medical friends, we may be allowed to hear one who is not a doctor, and I have much pleasure in asking you to listen to some observations from the Rev. Dr. Delaney.

The Rev. Dr. DELANEY on rising was warmly applauded. He said he felt it his duty on all occasions to promote a great religious and social work, but it was not his province to do more; and continued: I understood, and understand that you, a great medical body, who have charge of men’s bodies, should also have

charge of their minds, and what we, as clergy, value more as coming under their care is, their souls; and in no way can you assist us in this work more than by promoting the great cause with which you are identified this morning. I am a strong advocate of temperance; but although a total abstainer, I had to give it over in obedience to the medical profession, and having put myself into the hands of the doctors I was obliged to abide by their orders. A distinguished speaker this morning has said that in America the clergy have been opposed to the temperance movement. I can only say that such is not the case in this country, for the clergy of the church to which I belong are the most

earnest and zealous in the advocacy and support in every way they can of the cause of temperance. But there is sometimes a risk of being "over bold," and we are aware of the warning given this morning against being over bold. I would only say, in conclusion, that I have been exceedingly pleased to be here this day, and to give my humble support in the cause of temperance.

On the motion of Dr. NORMAN KERR a vote of thanks was passed by acclamation to the Chairman for his conduct in presiding; and Mr. WIGHAM having replied, and tendered his thanks to the medical gentlemen present for the expression of their views, the proceedings terminated.



ESSAYS BY MEDICAL STUDENTS.

By arrangement of the National Temperance League, a course of three lectures on the scientific aspects of temperance was delivered by Dr. Richardson, a few weeks ago, to medical students in metropolitan hospitals, and prizes were offered for the best and second best essays on questions based upon the lectures. Twenty-one students entered their names for the examination, but when the appointed evening arrived only eleven (seven young men and four young ladies) attended to fulfil their intention, the questions they were required to answer during two hours being the following:—

I. State the facts which are known as to the influence of alcohol on the animal temperature, and review the theories which have been advanced as to the cause of the decrease of animal temperature under alcohol.

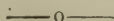
II. Enumerate the principal pathological conditions induced by the habitual use of alcohol, and sketch

out a typical case of cirrhosis of the liver from alcohol as the cause.

III. What may be considered as a fair estimate of the mortality from alcohol in England and Wales; and how does alcohol stand as a cause of death in comparison with other causes?

IV. What place does alcohol hold as a therapeutical agent; and in what form, and under what circumstances, may it be prescribed as a medicine, in disease, with perfect safety?

The essays were carefully examined and compared three times over by Dr. Richardson, who has awarded the first prize of ten guineas to letter D (Mr. Edward J. Pritchard, Westminster Hospital), and the second prize of five guineas to letter I (Mr. Bedford Pierce, St. Bartholomew's Hospital). Some of the other writers attained a high standard of merit, manifesting on the part of the students an intelligent appreciation of the numerous important points discussed by the eminent lecturer.



British Medical Temperance Association.

President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.
ANNUAL SUBSCRIPTION. Not less than Five Shillings.

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W. SANSOM, Esq., Edinburgh.

* * The Seventh Annual Report of the official Inspector of Retreats for Drunkards, and other important communications are unavoidably postponed.

THE
MEDICAL TEMPERANCE JOURNAL,
January, 1888.

Original Contributions.

ALCOHOL; ITS SUBSTITUTES AND ALTERNATIVES.

By J. JAMES RIDGE, M.D., B.S., B.A., B.Sc. Lond., *Physician to the London Temperance Hospital.*

By the term *substitutes* I intend all those drugs, some of them compounded with alcohol, which have a similar physiological action, and all other measures which have a like method. By *alternatives* I intend all those other plans or drugs which may be used to produce a desired result, for which alcohol is given, by some other physiological action. It is, of course, beyond dispute that alcohol has an action of some sort when taken into the body, both in health and disease. I have, moreover, never been able to admit (as some abstainers would have us to do) that alcohol can never be of any service in the treatment of disease. Its action on tissue and function is definite, and, when properly understood and suitably applied, it is capable of effecting certain objects. But to say that it is useful in the treatment of disease and to say that it is indispensable are two different things. There can, I think, scarcely be two opinions as to whether alcoholic liquids are ever prescribed unnecessarily. Many of us are ready to confess that we have ourselves done so in times past, when we had more faith in its value than we have now, and when we did not see the importance of avoiding the use of alcohol. There are many medical men in the same position to-day that we were in then.

The desirability of employing a substitute for alcohol wherever it is possible to do so has not been realised by hundreds of our fellow-practitioners. It is my strong conviction that if every medical man would recognise it as a duty never to recommend alcoholic liquors until some substitute or alternative therefor had been given a fair trial, two things would happen—the importance of alcohol as a drug would be soon recognised by them and by

the general public to have been immensely exaggerated, and the progress of temperance among the people would be greatly accelerated. To those who endeavour to rescue their fellows from the alcohol-habit, it is often disheartening that so many are led to return to their former ways, and are lost to the temperance movement by the recommendation of alcohol by some medical man. Even if alcohol be the only drug which will effect the object aimed at, there are few cases (if any) where alcohol cannot be administered in a pure form, with the same precautions as to dose and repetition as we are accustomed to employ in the use of opium or chloral. It is well-known to be undesirable to administer opium or its preparations for any length of time without imperative necessity, as for the relief of pain. It is still more dangerous and unadvisable to put such drugs into a patient's hands for self-prescription, or with general permission to take them as often as may seem desirable.

The self-administration of narcotics is always attended with great risk, as it so often leads to a craving for the particular narcotic which is being taken, so that the feeling of need or desire for the repetition of the dose becomes more imperative. The individual comes to be more or less addicted to the use of the drug. All this is admitted; but it is not so generally understood that alcohol is one of the class of narcotics which can, and does, develop the desire for its continued use when it is put into the patient's hands, or it comes to be known by the patient what it is will satisfy his desire. Hence it is that so many continue to take alcoholic liquors after the symptoms for which they have been prescribed have all disappeared, while a certain number become confirmed dipsomaniacs. If, then, the symptoms can be cured or relieved without the patient's knowing that he is taking alcohol, or in an unpleasant form, or, still better, by other means altogether, the risk of developing this craving for alcohol, either in moderate or immoderate doses will not be incurred.

Further, the so frequent prescription of alcohol tends to encourage in the public mind an exaggerated idea of its value. Hence they regard it as, *par excellence*, the first remedy to be resorted to in almost every emergency, whether it be suitable or not. Besides this it is considered, though illogically, that a remedy which is so useful for the cure of disease must be also extremely valuable as a preventive of disease. Thus the drinking habits of the people, the source of untold misery, vice, and crime, are directly and indirectly fostered by the action of medical men.

For these reasons it seems to me very desirable that the profession should pay special attention to discover substitutes and alternatives for alcohol and alcoholic liquors.

Alcoholic liquors are ordered (1) as food; (2) as stimulants;

(3) as sedatives; (4) as antispasmodics; (5) as tonics. There are, besides, a few other uses of minor importance.

(1) *Alcoholics as food.* It is a favourite idea that in many acute diseases the patient is "low" and needs "support," and that there is no support so effectual as alcohol in some form or other. The idea was even more prevalent a few years ago than it is to-day, although by no means extinct. The popular notion even now is that wine and spirits are concentrated nourishment, more valuable than any other, so that very often these are given to the neglect of milk and similar food, with disastrous results.

It would be rash to say that alcohol cannot be consumed in the body, although its products of consumption have not been traced. But there are four things which are clear respecting it; first: that alcohol is non-nitrogenous, and quite unable to furnish material for the repair of the machinery of the body. Second: that as a fuel to supply force or heat to the body it can never, as a product of decomposition, supply as much heat or force as the sugar from which it was derived. Third: that the quantity which can be administered without exercising any chemical influence upon the tissues is practically so small as to abrogate its claim to be a useful food. Fourth: that its influence in checking metamorphosis, or at least in preventing the excretion of waste products, and in reducing, rather than increasing, bodily warmth, prove it to be deleterious rather than useful.

One need hardly recommend anything, therefore, as a substitute for alcohol as a food. Our duty is to caution patients against regarding it as anything worthy of the name, and to urge the use of milk, farinaceous substances, and broths; in some cases these may be predigested with advantage. It will, no doubt, be said that there have been people who have been kept alive for weeks, if not months, on brandy. Some of these cases are fallacious, because patients and their friends are apt to forget or think unworthy of mention trifling quantities of food, which nevertheless vitiate the conclusion. It is also forgotten that life can be sustained for a long period under the conditions of most sick persons, provided water is supplied in sufficient quantity. Hence the value of the alcohol must be considerably discounted.

(2) *Alcohol as a stimulant.* It is an interesting question how far alcohol is entitled to this name, but one too wide to be properly discussed in this paper. Suffice it to say that it seems to me only entitled to be called a stimulant indirectly through its effect upon the circulation. Its direct action upon the nervous system is that of a narcotic or sedative, though here also, through the normal balancing of nerve centres, one against another, there may be an apparently stimulating action by paralysis of inhibitory nerves.

Alcohol will relax arterial spasm, and cause a temporary increase in the force and frequency of the pulse. Practically we have several agents which can be used instead of alcohol. The simplest is *heat*, which is a potent factor in warming the body and rousing the circulation in many alcoholic mixtures. A draught of hot liquid, either plain water, or sweetened water, or milk and water, or infusions of tea, coffee, cocoa, sage or mint, or hot oatmeal and water, will increase the force and frequency of the heart, and dilate the vessels of the periphery quite as effectually as alcohol. In some cases external heat is valuable, either dry or in the form of the wet pack.

If we desire a drug, we have in ether a rapid diffusible stimulant quite as powerful and rather more rapid than alcohol. In cases of severe shock or collapse, a condition in which stomach absorption is at a low ebb, we can inject a drachm of ether subcutaneously, or give an enema of turpentine and hot gruel.

Ammonia and its carbonate are valuable stimulants, both by the reflex action of the ammoniacal gas on the branches of the fifth nerve when inhaled, and by their direct action on nerve centres when absorbed. If we use aromatic spirits of ammonia we have the effect of alcohol as well, but without having to send the patient to the public-house or wine-merchant, or encouraging the pernicious drinking customs of society. It is necessary, however, to caution against the regular or frequent resort to this drug, as, in spite of its medicinal character and flavour, it can, like all other alcoholics and narcotics, create an imperative and disastrous craving for itself.

Camphor also is a powerful cardiac stimulant very useful in incipient inflammatory action and in the depression of fever. Where there is spasm of the cutaneous vessels, as in some cases of shock and depression by cold, nitrite of amyl or other nitrites will speedily relax them, especially if assisted by external warmth. Dover's powder is of great value under such circumstances.

As a cardiac stimulant small doses of digitalis or strophanthus, repeated every hour or half-hour, will prove useful. In the intervals a small quantity of beef-tea or meat extract may be administered. Such treatment is far more suitable for cases of severe hæmorrhage, with fainting and even collapse or convulsions, than the alcohol which is so commonly given. The latter relaxes arterial spasm, and tends to renew the hæmorrhage, while digitalis assists in sealing the arteries up.

The advantage of beef-extract over alcohol as a stimulant was demonstrated experimentally by the late Professor Parkes, and on a large scale also, in the Ashantee war; beef-extract was found to be quite as stimulating and reviving to fatigued men, and not to be followed by the same depression as occurred after

a ration of rum, when the men had to continue marching. We are told that at the end of the march many of the men, especially the elder ones, were eager to get the rum, their own ration and that of any others who would part with it; but this phenomenon is not without parallel in less exceptional circumstances, and is in no need of an elaborate theory for its explanation.

It should be mentioned, also, that we have in caffeine and their real nervine stimulants, stimulants of the will power, agents which render the mind more active and wide-awake, if taken in moderate doses. A hot cup of tea or coffee is a pure stimulant, not, of course, feeding the nerve-cells, but facilitating the discharge of their nerve-force. Hence the too-frequent use of these beverages may induce a state of exhaustion, especially if proper food is not taken.

The craving for a stimulant which many feel in greater or less degree, and especially those who have been addicted to drink, may be combated by almost all the above substitutes. In addition to these, tincture of capsicum, in five- or ten-drop doses, a teaspoonful of confection of black pepper, and small doses of nuxvomica or arsenic, are often useful.

(3) *Alcohol as a sedative.* We are all aware that alcohol, chiefly in the form of spirits, is often given to procure sleep and to relieve pain, such as that of neuralgia, dyspepsia, colic, diarrhœa, dysmenorrhœa. It is as a sedative that alcohol is so insidious and seductive, in cases of chronic disease, as if frequently resorted to, the drink craving is almost certainly developed. Hence the importance in many cases of rather bearing patiently the ills we have than of flying to others that we know not of. It is clear that other narcotics, such as opium, morphia, chlorodyne, chloral, are open to the same objection, and the victims of these drugs are terribly numerous. The advantage of them lies in the fact that they may be kept more easily under the control of the medical man or some judicious attendant, so that they can be cut off if desirable. It would be impossible to indicate here the various substitutes for alcohol appropriate to every ache and pain for the relief of which it is resorted to. We have, however, many anæsthetics, local or general, besides those I have mentioned, such as gelsemium, the bromides, belladonna, menthol, cocaine, besides the appropriate use of blisters, sinapisms, and moist or dry heat. In the case of true neuralgia we have quinine, its sulphate and hydrobromate, gelsemium, arsenic, phosphorus, croton-chloral, aconite, besides warmth, blisters, vibration, and massage. For sleeplessness we have the bromides, morphia, chloral, cannabis indica, camphor, urethane, and other things; not that all these are advisable in every case, but adapted to one or another. In many instances some form of dyspepsia

is the cause of the sleeplessness, palpitation, or other uneasy feeling for which a sedative is desired, and when this is cured the symptoms vanish.

(4) *Alcohol as an anti-spasmodic.* We have in chloroform, ether, hydrocyanic acid, in nitrite of amyl and nitro-glycerine, and sweet spirits of nitre; in camphor and mono-bromide of camphor; in assafœtida, valerian, musk, and aromatics, substances which will diminish spasm, whether of voluntary or involuntary muscle. We have besides, warmth, either external or applied internally, by the injection of hot water into the bowel, with or without oil of turpentine: massage also is frequently useful.

(5) *Alcohol as a tonic.* Alcohol can only be called a tonic on the *lucus a non lucendo* principle. For its action in relaxing unstriated muscular fibre, which entitles it to be called an anti-spasmodic, disentitles it of all claim to give tone. The sense of exhilaration which follows small doses of alcohol has been mistaken for real strength and increase of vitality. It is well known that relaxation of the blood-vessels throughout the body is one of the first effects of alcohol. The arteries of the retina have been observed to dilate after very small doses of alcohol. The diminution of tone is well seen in the tracings of the pulse under the influence of alcohol. If one needs a tonic, therefore, alcohol is one of the things to be shunned altogether.

But alcoholic beverages contain other things beside alcohol. Beer contains infusion of hops or other bitter stomachics. Some wines contain tannin. These ingredients, by creating or stimulating the appetite, increase the strength and vital power in certain cases. But we have a large number of drugs which will do the same without the disadvantages and opposition arising from the presence of alcohol, and, if the flavour be objected to, many of them can be taken in the form of coated pills.

The external use of cold, either by a dripping sheet, cold sponging, or a shower-bath, according to the power of reaction, is a valuable means of giving real tone. Iron, quinine, nuxvomica, and other drugs, are useful in appropriate cases.

Wine is frequently prescribed for those young persons who are growing rapidly, and whose strength does not seem to keep pace with their growth. It is important to know that alcohol is by no means necessary in such circumstances, nor indeed, in my opinion, even desirable. There is often found in such cases a defective appetite, perhaps even sub-acute gastric catarrh, which may be due to imperfect mastication through bad teeth, or aggravated by it. There are other causes, such as late hours, bad habits, improper food, or irregular meals. In such cases those means must be resorted to which are so effectual in

improving the condition and strengthening the heart of athletes. Regular and regulated meals, cod liver oil, exercise, a good amount of rest and sleep—these, with the addition of iron, or hypophosphites of soda and lime, will do more than anything else to invigorate the bodily health.

It should not be supposed, however, that alcohol is a valuable agent, which renders all these careful regulations, and sometimes irksome measures, unnecessary. It is a broken reed on which to depend, and will never produce the result desired. Tissues formed under the influence of alcohol cannot have a normal vitality, since even minute quantities retard their natural growth. Larger amounts continued for some time certainly lead to earlier degeneration and decay of cells and tissues.

Nor is it to be supposed that the unhealthy conditions and habits of life in great cities are counteracted by an agent which renders oxidation less active, checks metamorphosis and diminishes excretion of waste products. Such an agent is to be particularly avoided under such circumstances, and hence we must say, Abstain from alcohol! Other things being the same, the abstainer will enjoy better health, be more vigorous in body and mind, live longer, and possess to a later date in his lengthened life the faculties unimpaired which will enable him to enjoy his prolonged existence. That we may encourage our fellow-creatures to believe this and to act accordingly, and that we may banish the popular notion of the paramount importance of alcohol, both in health and disease, I would urge the desirability of avoiding the prescription of alcohol whenever the object in view can be obtained by other means, and I am confident that, if this course is conscientiously adopted, the necessity for alcohol will be found to be ever diminishing.



UNSETTLED QUESTIONS.

A CORRESPONDENT who “desires to see such a mass of scientific truth regarding alcoholic drinks as must leave every inquirer no alternative but to practice teetotalism for the rest of his days,” and who “thinks that this want will be supplied when we shall have before us a solution or clearing up of one or two points in the evidence we now possess,” asks us to submit the following observations for the consideration of our readers.

I. The late Dr. Parkes made certain experiments showing that the beats of the heart are quickened when alcoholic drink is taken: and he *assumed* that the resistance offered to the heart's action remained unaltered, and, under this supposition, he calculated that the heart did more *mechanical work*, as represented by a given number of *foot tons*. However, later knowledge seems to have proven that the

contractile force of the vessels which the heart fills with blood is *weakened* in drinking intoxicating liquor; and hence the calculations made by Parkes become of little or no value if this be so; and therefore intended text-books should not contain such pseudo science, as some now do, for our enemies to carp at. But it might be urged that blood in returning to the heart, under alcoholic treatment came more freely, and *forced* that organ to more energetic action; but how, or under what law, blood, largely below the heart *in situ*, and which had given up much of its vitality, could add energy to the heart it is difficult to see. The real explanation appears to be that each stroke of the heart, under alcohol, does *less work* than without the alcohol, and that alcohol is a true narcotic and no stimulant.

II. We find in well-known books that intoxicating drink is frequently called a *stimulant*, and then a narcotic. Dr. Ridge appears to *prove* it to be the latter; here, again, let us get new knowledge if it be required, and no longer continue to use the word "stimulant" in a double sense. God's laws of nature do not change, and if alcohol be, as all the facts before us appear to show it to be, a narcotic, it cannot also be a stimulant.

III. Does any part of the alcohol swallowed furnish *force* to the body? It would appear not, but more light is wanting.

We shall be happy to receive communications from medical correspondents in regard to any or all of the points named, and trust they will be able to throw some light on these unsettled questions.



NERVE REST AND ALCOHOL.—The article furnished to the *Nineteenth Century* for November, by Dr. James Muir Howie, of Liverpool, contained several references to alcohol, including the following:—"The fact that women are more liable than men to the severer forms of nervous exhaustion is one reason why the cases quoted in these pages are chiefly those of women. Another reason is that, in men, it is rarely possible to study this stage of the disease uncomplicated by the effects of alcoholic indulgence. Most men who find themselves becoming victims of nervousness endeavour to escape the worries of life by taking refuge in drink, so that they usually bring upon themselves other diseases of alcoholic origin. In women, this was not formerly the habit, but there is reason to believe that the late increase of inebriety among them is largely due to the spread of nervous exhaustion. On the other hand, there are many cases in both sexes where alcoholic indulgence has undoubtedly been the chief cause of the ailment."

PROFESSOR BUNGE ON ALCOHOL.—Dr. Bunge, Professor of Physiology in the University of Basle, has issued a second edition of his able lecture on the alcohol question: *Die Alkoholfrage*. (Leipzig: Verlag von F. C. W. Vogel.) After enforcing the importance of legislative prohibition of the common sale of alcoholic liquor, the Professor continues:—"Help must not be expected from the State alone. Private associations must prepare the way for legislative action. The association must from the first maintain without compromise the principle of total abstinence from all alcoholic beverages. The history of the struggle teaches us that all kinds of moderation societies have accomplished nothing, and have made themselves contemptible by their half-heartedness, whereas the total abstinence societies can show most splendid results." These results the writer summarises with special reference to America, England, Sweden, Denmark, and Switzerland.

Miscellaneous Communications.

EFFECTS OF MODERATE DRINKING ON THE HUMAN CONSTITUTION.*

By Dr. GEORGE HARLEY, F.R.S., *Ex-Professor in University College, London.*

ALTHOUGH the majority of persons truthfully describe themselves as moderate drinkers, and consequently medical men see far more patients belonging to this category than any other, it requires but a moderate amount of reflection on their part to convince them that, in spite of this, very little indeed is as yet known of the effects of moderate drinking on the human constitution; and it is only those who have given some special attention to the subject who have the faintest idea of its intricacy, or are aware how many collateral problems have to be solved ere one can even so much as cross the threshold of the inquiry. The main difficulty besetting the path lies in the fact that there are not only no tables of statistics as to its effects in existence; but there are no means of acquiring them. The statistics of the effects of drunkenness, of which there are abundance of greater or lesser value, are unfortunately of no service whatever in solving the problem of the effects of moderate drinking either on mind or body. This is all the more to be regretted at a time like the present, when the subject of total abstinence from alcoholic drinks is being hotly discussed, both in the light of a medical, of an individual, and of a national question, and the opinions of medical men, while they are eagerly sought for by the laity, are not only freely, but often adversely, commented upon, in consequence of their apparent want of uniformity. The common, though unreasonable, taunt that "doctors

differ" being for ever sounded in their ears by those who fail to see that a difference of opinion among all men who think for themselves is a law of necessity, from which even our spiritual advisers are not exempt, on those very points too upon which one would *à priori* expect there could not possibly be two opinions. However, as the sooner this taunt against the medical profession's variance of opinion upon the alcoholic question is shown to be unjustifiable the better it will be for all parties, I venture to add my mite of knowledge to the general stock, in the hope that as there are many sides to the question if I merely succeed in suggesting new ideas in the minds of others, my labours will not have been altogether fruitless.

It is not I think difficult to account for the profession knowing so little about the effects of moderate drinking on the human constitution, when one bears in mind the facts:—1. That in no instance are they sufficiently marked to necessitate any special form of treatment in a public institution. 2. That their deleterious influences on the bodily functions are so insidious as in the early stages either totally to escape detection, or, what is more common, to lead them to be attributed to some entirely different cause. 3. The effects of moderate drinking manifest themselves in such a variety of different forms, that even when their true nature is recognised, the general practitioner has not the opportunity of seeing a sufficient number of anyone of them to admit of his drawing conclusions from them. 4. The men who have most experience of the severer forms of disease directly traceable to the effects of moderate drinking are, in general, merely those

* From a lecture delivered to the Society for the Study of Inebriety—Medical Society of London Room.—November 23, 1887.

who like myself make liver and kidney diseases a special study; the liver and kidneys being the two organs of the body most affected by alcohol when indulged in within the limits of what is called moderation. Notwithstanding this fact, it being impossible for me, or even any one else specially engaged in the treatment of liver and kidney diseases, to collect a sufficiently large number of telling cases from which to deduce crucial data of the deleterious effects of small quantities of alcoholic stimulants habitually indulged in by temperate men, I purpose adopting the plan of drawing conclusions from the statistical data of the effects of alcohol on the human constitution, when it is taken in the form of what is called "nipping." That is to say small quantities only being taken at a time, but frequently, in the course of the day. Of these, fortunately, the Registrar-General's Reports of our national mortality furnish us with something approaching to reliable data. So I shall make use of them, along with some German statistics of a similar character, in illustrating the probable pathological effects of moderate drinking on the human constitution. For when one cannot get what he wants it is good policy to make use of what he has got. On the principle that a half a loaf is better than none.

For the sake of brevity as well as of perspicuity I shall treat the different points of my subject in the following order:—

1. The visible effects of alcohol on the bodily functions when it is taken in a quantity beyond what the system can tolerate.

2. The physical and chemical effects of alcohol on the blood as shown by analysis.

3. The physiological action of alcohol directly introduced into the liver by the portal circulation.

4. The pathological effects of alcohol taken within the margin of intoxication as shown by the Registrar-General's tables of mortality.

5. The baneful effects of alcoholic stimulants as occasionally witnessed in the sick-room.

6. The therapeutical advantages of alcohol given in medicinal doses.

7. The question of alcohol as a food, and the differing effects of spirits, wines and beers, on the human constitution.

First, then, as regards the visible effects of alcohol on the bodily functions. Like those of other toxic agents the visible effects of alcohol on the human system greatly depend upon the quantity taken, in proportion to the age, sex, and constitution of the individual. The latter factor being one of great moment, from certain persons being able to take double, triple, and quadruple what others can, without manifesting the same symptoms; and, what is more, being able to take at one time an amount of alcohol with impunity which at another will produce marked effects. In all persons, however, be their age, sex or constitution what it may, alcohol when taken in large quantity acts as a cerebro-spinal nerve paralyser; inasmuch as it suppresses every function of the brain, cerebellum and spinal cord. In lesser quantity it blunts the perceptive faculties, confuses the ideas, impairs the speech, and unsteadies the gait. All of which effects are but the visible signs of incipient paralysis of the cerebro-spinal nervous system.

The ultimate effect of alcohol in large quantity is not only to completely comatose, but to kill, precisely with the same chain of symptoms as every other true narcotic poison does.

While considering the visible effects of alcohol on the human body careful note must consequently be taken of the proportionate quantity employed. For the first effects it produces, like the primary effects of opium, are the reverse of narcotism; being in fact purely stimulating on both the heart and the brain. The cardiac stimulating effect is rendered apparent by quickened pulse and congested retina;* the cerebral by volubility of speech, and restlessness of manner. This

* Nicol and Mossop found that two teaspoonsful of absolute alcohol caused congestion of the retinal blood-vessels.

primary effect is, however, but of brief duration and the mere preliminary to the manifestation of the alcohol's paralyzing action, which is in its time ushered in by an appreciable blunting of the perceptive faculties. The senses of feeling, tasting, smelling, hearing and seeing, all gradually becoming obtuse, on account of incipient paralysis of the sensory nerves. While at the same time the speech gets thick, and the gait unsteady from a similar partial paralysis of the motor nerves, coupled with a loss of the co-ordinating power of the cerebellum.

At the same time the intellectual faculties are in like manner affected. For the noticeable diminution of mental grasp, associated as it usually is with a tottering of the moral control, equally truthfully points to impending cerebral paralysis. A paralysis which so far as mere effects are concerned differs in no wise whatever from cerebral paralysis the product of disease. The only difference between them being as regards cause and general result.

The sympathetic nervous system is even not exempt from the paralyzing effects of alcohol. As is shown, firstly, by the flushed and heated face,* and secondly, by the subsequent clammy, cold and pallid cheek.

In thus speaking of the effects of alcohol on the nervous system, I do not wish it for a moment to be thought that I am one of those who believe that an alcoholic stimulant, as usually taken into the system, has any direct chemical or physical effect upon nerve tissue; seeing that before it reaches the nervous system through the medium of the circulation, after absorption from the digestive canal, it must be in a far too diluted state, I imagine, to exert any recognisable chemical or physical action on either nerve cell or nerve fibre. As far as I am aware there exist no facts which

favour such an opinion. Unless it be that from the known powerful local effects of such potent agents upon peripheral nerves as aconite, belladonna, and calabar bean, it were imagined that their specific physiological effects were due to a chemical or physical action, resulting from their direct contact with neurine of the affected portions of the nerves. Such an opinion will, however, by the result of the following experiments, be seen to be most probably erroneous, and the mere offspring of hasty generalisation. For while working at the direct action of powerful toxic agents on the nervous system some years ago, more especially on the action of strychnine on the spinal cord, I found to my astonishment that the violent tetanising substance, strychnine, even while in a state of aqueous solution, totally fails to produce its physiological effects upon the nervous system when directly brought into contact with the nerve cells and fibres of the exposed living spinal cord.* Whereas its toxic action becomes at once manifest, if it be previously allowed to enter the capillaries and within them mingle with the living circulating blood. This difference in result cannot be due, as one might at first glance be led to imagine, to the poison being brought into more intimate contact with the nerve tissue in the one case than in the other; for care was taken to introduce the aqueous solution of the strychnine into the actual substance of the cord. So that the toxic agent might come by the process of endosmosis into as intimate a contact with the neurine of its nerve fibres and cells as it could possibly do when conveyed to them by the capillaries. Consequently the fact of strychnine immediately causing convulsions, when a little of it was permitted to reach the nervous system after mingling with the blood, and producing no effect when applied directly to the nerve substance itself, forced upon me the conclusion, which as far as I am aware

* Section of the cervical portion of the sympathetic nerve in rabbits, cats, and other animals, is immediately followed by a dilatation of the blood vessels and increase in the temperature of the same side of the head.

* "On the Direct Action of Strychnine upon the Spinal Cord." *Lancet*, July 12, 1856.

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no fresh researches have as yet overturned, that strychnine exerts its tetanising powers solely through the chemical changes it induces in the constituents of the living blood. The alteration it produces in their composition, be it what it may, not only rendering them unfitted for the healthy nutrition of the nerve cells and fibres, and their consequent performance of normal function; but generating in their food-pabulum abnormal properties of such a kind, as compel the cells and fibres of the spinal cord to call into existence tetanic spasms in the muscles supplied by them with nerve power.

In the absence of any data proving the contrary I am inclined to take a precisely similar view regarding the *modus operandi* of alcohol on the nerves.

Having thus given it as my belief that alcohol exerts its power on the nervous system entirely through the intermediary of the blood, it now behoves me to adduce evidence of alcohol having a direct chemical action upon living blood. For unless that can be shown to be the case my theory falls from the lips still-born.

The first experiment I will cite is one of mechanically mixing pure alcohol with newly-drawn healthy ox-blood after it had been arterialised by oxidising it with fresh air. When 10 per cent. of alcohol was added to the blood, and well mixed with it, the bright scarlet arterial hue entirely dis-

appeared, and a light brick tint took its place. Its albumen in the serum at the same time coagulated, and subsided in flakes to the bottom of the vessel. No subsequent amount of agitation with renewed portions of fresh air sufficed to re-oxygenate it, and restore the scarlet arterial hue of the blood after it had once been destroyed by the alcohol. More than this, on no occasion did I ever succeed in obtaining crystals from blood that had been so treated; not even from the blood of dogs that had been previously poisoned with chloroform; which is all the more remarkable seeing that such blood under other circumstances yields prismatic crystals readily. Moreover the red corpuscles were not destroyed by the alcohol, nor their contents allowed to escape, as was the case when the same blood was acted upon by chloroform or sulphuric ether* instead of alcohol.

Such being the physical effects of alcohol on fresh healthy blood, the next point was to ascertain its chemical action. With this object two separate portions of the same newly drawn healthy ox-blood were placed in gas analysis retorts, and, after being thoroughly oxygenated with air, to one 5 per cent. of alcohol was added, while the other was left pure. The retorts were then closed up, and during 24 hours repeatedly shaken. The average calculated results upon a series of experiments of this kind yielded the following results:—

In 100 Parts of Air.	Oxygen.	Carbonic Acid.	Nitrogen.	Vol. at 0° C and 1 Metre Pressure.
Composition of employed air ...	20·9	0·002	79·038	20·96
With pure ox-blood	10·58	3·330	86·09	14·91
Ditto plus 5 per cent. alcohol ...	16·59	2·380	81·03	18·97

A glance at this table suffices to show that alcohol, even in the small proportion of 5 per cent., exerts a powerful chemical effect upon blood, so powerful as to entirely derange one of its most important functions; namely, the function of respiration.

* In the blood of dogs poisoned by ether there are sometimes so many crystals that they entirely fill up the field of the microscope. They differ from those of the chloroform in being less coloured, and in the form of fine needles occasionally twelve times longer than broad.

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The alcohol seems to have acted like an asphyxiant, inasmuch as it has not alone diminished the power of the red corpuscles to absorb oxygen, but to exhale carbonic acid, and that too in

the same way, though to a somewhat less extent than morphia does, as the following results of my morphia experiments show :—

In 100 parts of Air.	Oxygen.	Carbonic Acid.	Nitrogen.	Vol. at 0° C. and 1 Metre Pressure.
Composition of air employed ...	20·96	0·002	79·038	20·96
With pure calf's blood	6·64	3·47	89·89	10·11
With pure calf's blood plus ·005 grammes of morphia ...	17·17	1·00	81·83	18·17*

It being well known that when alcohol is drunk to excess it is found to be eliminated in an unchanged state both by lungs, skin and kidneys, some might be inclined to think that the results of my experiments on the chemical action of alcohol on blood are opposed to the theory of alcohol passing through the body unchanged. Seeing that before it could act on blood so as to produce the effects described, it must on its side have undergone some chemical change; unless indeed we fall back on the still less probable hypothesis that the action of alcohol on blood is of a catalytic kind. There exists not a vestige of scientific evidence in support of the latter view, and fortunately there is in reality no necessity to entertain any opinion of this kind. For in no case is all the alcohol that has been taken into the body ever eliminated from it again. It is a mere fraction of the actual amount that reappears in the exhalations from the lungs, and the urine eliminated by the kidneys.* And just in the same way as in arsenical and strychnine poisoning, it is only the unused up excess of either of them that is met with in the excretions, it is probably only the unused-up excess of the alcohol

that is met with in an unchanged state in the breath perspiration and urine.

That a large amount of the alcohol that has been absorbed from the stomach is retained within the tissues of the body themselves, is proved by the fact that pure alcohol can be extracted from them after death by the simple process of distillation. This I have myself done, whilst I was lecturing on Medical Jurisprudence at University College, from both the kidneys, the liver and the brain, of a man who died after drinking nearly a quart of raw brandy. Nay, more than this, the alcohol was present in such quantity both in the liver and the brain, as to be distinctly recognisable by the nose. The smell of it was even far stronger than one usually meets with in the breath and urine of intoxicated persons.

The above mentioned experimental results, showing that alcohol retards the respiratory processes by diminishing blood oxidation, furnishes a chemical explanation of the theory propounded by Dr. Hammond, that the moderate use of alcohol increases bodily weight by retarding tissue metamorphosis.

* Professor Binz, of Bonn, calculates that of the whole amount of alcohol taken into the system not above 2·915 per cent. is eliminated in an unchanged state by the lungs, kidneys and skin.

* The effects of a number of other medicinal substances are given by the author in a paper entitled "On the Influence of Physical and Chemical Agents upon Blood; with special reference to the Mutual Action of the Blood and Respiratory Gases." *Trans. Royal Society*, 1864, pp. 687-724.

62 *Effects of Moderate Drinking on the Human Constitution.*

As oxidation is the motor power of all vital action, and in direct proportion to its activity are the manifestations of life accelerated or retarded; every breath we draw, every movement we perform, every thought we think, being but the outcome of the transformation of matter under the influence of oxygen. If it be true as before stated, that alcohol possesses the power of preventing the constituents of the blood from being properly oxidised, and thereby fitted for the purposes of nutrition, it is easy to account for its producing the chain of neurotic symptoms previously enumerated, terminating as was shown, if a sufficiency of the alcohol be taken, in a complete paralysis of the whole cerebro-spinal nervous system.

I now pass to another and entirely different series of experiments with alcohol on living animals, which led to the discovery that diabetes can be artificially induced by disordering the hepatic function, by means of stimulants injected directly into the liver, through the portal vein. Among the stimulants used was alcohol, and I shall now cite two examples of its effects. The first will be one of the experiments I had the honour of performing at the College de France before a commission appointed by the Société de Biologie.*

Into one of the mesenteric branches of the portal vein of a full grown healthy retriever dog, I slowly injected 16 cubic cm. (half an ounce) of alcohol mixed with an equal amount of water. And such was the effect of this proceeding on the glucogenic function of the liver, that in three hours the dog was found to be markedly diabetic. The most rapid example of the supervention of diabetes after the introduction of alcohol into the portal vein I ever met with, was in the case of a small mongrel adult dog. The quantity of alcohol employed being ten grammes, along with an equal amount of water. In two hours this dog's urine contained sugar.†

* The commission consisted of Professors Bernard, Verdeil, Würtz and Robin.

† This is one of the experiments reported in the *Compt. Rend.* of the Biological Society

A similar explanation of the reason why the excretion of urea is diminished by alcoholic stimulants might be given, seeing that, as Voit and others believe, it is formed in the liver. Vogel showed that when the liver's function is disordered in cases of hepatic cancer, a very small quantity of urea is found in the patient's urine. Voit's idea is that the urea is formed in the liver by the disintegration of the hæmoglobin of the effete red blood corpuscles, a view seemingly favoured by the result already given of the physical effects witnessed in acting upon blood with 10 per cent. of alcohol and by the above mentioned effects of alcohol when injected into the liver. The detrimental effects upon the liver's functions of the direct introduction of alcoholic stimulants into its blood-vessels as above described, prepares us for the marvellous effects nipping (not drunkenness) has on the human liver, as revealed by the tables of mortality given in the Registrar-General's Reports.*

Notwithstanding the familiarity of medical men with the many phases of disease directly traceable to inebriety, few I fancy are alive to the vast amount of liver, brain, heart, and kidney disease, which can be traced to habitual nipping. That is to say the frequent taking of stimulants well within the margin of actual drunkenness. A glass of sherry now, a soda and brandy then, and perhaps, a glass of whisky and water as a comforting night-cap, I call nipping. The imbibers being not improbably persons who have never been intoxicated in their lives, and who, one and all of them, would denominate themselves moderate drinkers. Unfortunately, as I said before, we have no tables of mortality in which the so-called class of moderate drinker's death-rates are segregated. So, from being unable to furnish a comparative

of Paris, 1853, vol. v., pp. 59-61, in my paper entitled *Researches sur la Physiologie du Diabète Sucré.*

* The reports I have extracted the following statistics from, are those of the previous ten years published in 1885, under the title of *Supplement to the Forty-Fifth Annual Report.*

table of their death-rates, I have to fall back on the next best thing; which is the Registrar-General's tables of comparative mortality in males, between the ages of 25 and 65, in different industries; which shows the increased mortality from the diseases I have referred to in the case of persons most

exposed to the temptation of nipping. This class includes, besides those engaged in the actual sale of liquors, such as vintners, &c., commercial travellers and brewers. At p. 32 of the Registrar-General's *Supplement*, is the following tabulated statement of this comparative mortality.

	Diseases of the Nervous System.	Circulatory System.	Urinary Diseases.	Liver Diseases.
Brewers	144	165	55	96
Commercial travellers	139	100	44	61
Innkeepers, Publicans, Wine, Spirit and Beer Dealers ...	200	140	83	240

Compare this with the death-rate in some other industries, not exposed to

the temptation of nipping.

	Diseases of the Nervous System.	Circulatory System.	Urinary Diseases.	Liver Diseases.
Farmers and Graziers	81	84	31	41
Drapers and Warehousemen ...	109	75	37	35
Printers	90	93	30	28
Gardeners and Nurserymen ...	63	82	39	18

As an addendum to these most telling statistics, I think I cannot do better than quote what Baer says, regarding the probabilities of life in persons exposed to the temptations of nipping compared with that of others not liable to be so tempted. The following is extracted from his table of Prussian statistics,* and I arrange them for the sake of easy comparison in two parallel columns, showing the probable duration of life calculated at different ages.

Age.	Probable Duration of Life of Men.	
	In the Liquor Trade.	Not in the Liquor Trade.
25	26'23	32'08
35	20'01	25'92
45	15'19	19'92
55	11'16	14'45
65	8'04	9'72

* *Deutsche Med. Wochenschrift*, Jan. 20 1887.

To return for a moment to the part played by the so-called moderate use

of alcoholic stimulants in the production of fatal forms of liver disease, I may mention that the Registrar-General says, that the mortality of men simply engaged in the liquor trades is, when taken as a whole, no less than six times greater than that of those not so occupied (p. 15 of Report referred to). And as it is I think impossible that we as medical men can know too much regarding the probable deleterious effects of mere "nipping," I have made the subjoined extract from the Registrar-General's tables of the comparative mortality from liver diseases in different industries, between the ages of twenty-five and sixty-five, in the years 1880-1-2, which exhibits the matter in a stronger light than any words can possibly do.

Bookbinders	...	...	...	3
Booksellers	...	...	...	4
Hatters	..	...	...	9
Tobacconists	...	...	...	10
Druggists and Printers	...	...	...	18
Gardeners and Miners	...	...	...	19
Butchers	...	...	...	21
Fishermen	...	...	...	22
Brewers	...	...	...	42
Innkeepers, Publicans, Spirit,				
Wine and Beer Dealers	...	...	...	197

In commenting on the table from which the above extract is taken, the Registrar-General remarks:—"The mortality of men who are directly concerned in the liquor trade is appalling; the comparative mortality figure for brewers being 1,361; for innkeepers, publicans and dealers in wines, spirits, or beers, 1,521; and for inn and hotel servants, waiters and barmen, &c., no less than 2,205; whereas, for maltsters, who are only concerned with the materials and not with the liquor itself, the figure is only 830." (P. 36.)

After what was said on the action of alcohol introduced into the liver by the portal vein, it requires I think but a small amount of reflection, on the part of those acquainted with the mechanism of digestion, to understand how alcohol taken into the stomach, even in small quantities, is such a powerful agent in the production of hepatic disease; seeing that mostly all the liquid products of our food are carried directly from the intestines to

the liver by the portal vein. Consequently it naturally follows that almost every drop of the alcohol, be it small or great, taken into the stomach, must be directly conveyed by the portal vein to the liver, and compelled to filter through its tissues before it can possibly get into the general circulation. It was the knowledge of the fact that all the alcohol arriving in the intestines must necessarily be transported by the branches of the portal vein into the hepatic tissue, which led Professor Bernard to imitate my method of artificially producing diabetes in animals (by the injection of stimulants into the portal vein), by merely placing the stimulant in the duodenum, and letting it be absorbed and carried to the liver by the mesenteric branches of the portal vein. By this proceeding Bernard was equally successfully inducing diabetes. So we see there is no difficulty either in understanding how moderate drinking is an active agent in exciting diabetes in the predisposed, and in augmenting the sugar in the urine of diabetics, or of otherwise acting detrimentally on the liver's tissues and functions.

I may here incidentally remark that there is, I believe, a far more intimate connection between diabetes and hepatic disease than is usually supposed. My line of practice lying chiefly with kidney and liver affections, I have abundant opportunities of noticing this, and the most remarkable case of the kind I ever came across, was that of a well-known London surgeon—a specialist—who during the last seventeen years of his life had three distinct attacks of diabetes, for which I attended him. Each attack was associated with marked liver disturbance, and, strange to say, every time he took opium to allay the diabetes his stools became of a pipe-clay colour. This gentleman was a hard worker, and one might say a free liver. For he not only kept a good table, but daily indulged in old port wine, occasionally getting through more than a bottle in the course of the day.

The figures given in the table on p. 63, show that renal diseases are as a rule much less influenced by alcohol

than hepatic. This, I think, is easily accounted for by the fact that the kidneys are not exposed as the liver is to the influence of the whole of the imbibed alcohol, seeing that a considerable portion of that which has already passed through the liver is eliminated by the lungs and consequently never arrives at the kidneys at all.

As regards the large number of nerve affections, more especially in the form of brain disturbances, which come under the notice of liver specialists, I believe they are not nearly so much the direct, as they are the indirect, effects of moderate drinking, springing as they appear mainly to do from a derangement of the hepatic function. Scarcely a more formidable cerebral poison than bile exists. So potent, indeed, is the effect of bile circulating in the blood upon the intellectual faculties, that the special name of *bilæmia* has been invented for it. And who amongst us does not know, probably from personal experience even, the mental disturbance a mere temporary attack of biliousness produces. The memory is impaired, the vision is defective, mental labour is irksome, the temper irritable, and the spirits depressed. In cases of jaundice again, life sometimes becomes an actual burden. The very word melancholy is simply a compound of the two Greek words black and bile, and one of the most distressing forms of insanity has been not inaptly christened melancholia.

Sometimes one learns from a patient a great deal which he may turn to account in the treatment of others, and one of the things a patient taught me was the marvellously depressing after-effects a single glass of spirits will occasionally produce in a bilious person. A leading member of our own profession, who is a martyr to biliousness, made a number of experiments upon himself regarding the depressing after-effects of alcoholic stimulants. He tells me that he has repeatedly found that a single glass of gin, whisky, or brandy, taken diluted with water, either at dinner time, or in the evening, when he is bilious, and feels

exhausted after his day's work, will be followed in from five to fifteen hours with such a morbid depression of spirits that he scarcely knows what to do with himself. Yet the primary effect of the stimulant is, he says, not only refreshing but exhilarating. This, although an exceptional case in so far as severity is concerned, is but the type of many others that have come under my notice; for some have said that a single table-spoonful of brandy, whisky, or gin, would so affect them when their livers are out of order.

The only way in which I can account for this depressing after-effect of small quantities of alcohol, when taken by bilious persons, is by imagining that the small amount has the power to exert a deleterious influence on the cerebral tissues (through its chemical action upon the constituents of the blood) in consequence of their having been already materially weakened by the poisonous effects of the bile in the circulation.

I am led to this opinion from noticing how much less are the depressing after-effects of alcoholic stimulants when the liver's function has been put to rights. This does not, however, in any way militate against the truthfulness of the idea that alcohol has itself a deleterious effect on brain tissue. For the mere fact of a splitting headache following upon a debauch, in the case of a strong healthy man, and frontal or occipital pain succeeding the drinking of a single glass of sherry in a nervously weak one, is I think proof positive of the detrimental effects of alcohol on nerve-tissue. This cerebral pain, in both cases, I attribute to precisely the same cause, namely, the detrimental pressure to which the nerve tissues were subjected during the preliminary stage of dilatatory and engorgement of the blood-vessels of the brain.

This remark leads me here to notice the reverse primary effect of alcohol on the spirits, both when taken in small and in large quantity, during the preliminary stage of impending intoxication, which is invariably spoken of as a pleasant sensation. When a small quantity of alcoholic stimulant is taken, the plea-

surable feeling experienced may probably be entirely due to its increasing the cerebral circulation. But when the amount taken is sufficient to lead to complete unconsciousness, the preliminary stage of the intoxication, which has been described by some as one of sweet *sans souci*, is, in my opinion, simply the offspring of a blunting of nerve sensibility, in fact, merely the partial or preliminary stage of the cerebro-spinal paralysis already alluded to. Precisely in the same way as a feeling of pleasing calm oftentimes precedes the total unconsciousness of refreshing sleep, and soothing sensations of agreeable beatitude have been described as their feelings by persons who, after a lingering illness, have quietly and peacefully slipped away into eternity. In all of these cases I believe the pleasurable sensations experienced are merely due to the gradually increasing negation of nerve sensibility.

ALCOHOLIC STIMULANTS IN THE SICK ROOM.

This part of my subject I must premise by remarking that from it so happening that, in certain cases of disease, alcohol is tolerated by weak patients to a surprising extent, many of us have fallen into the error of thinking that in all forms of exhausting disease an equal amount of toleration to alcoholic stimulants exists. Personal observation has, however, opened my eyes to the fact that, so far from this being the case, in many (I think I might even go so far as to say in most) cases of disease exactly the reverse is the fact. For I have repeatedly come across patients, weakened by disease, who have exhibited marked sensibility to the intoxicating effects of alcoholic stimulants, and to whom they have appeared to me to be an actual bane.

As illustrative examples are invariably the most convincing forms of argument, instead of dealing in generalities I shall cite specific cases. As, however, the gentlemen in whose practices they occurred are still alive, and will have no difficulty in recognising their own cases, for obvious reasons I must avoid mentioning either

names, localities, or dates. By so doing, while the value of the inference to be drawn from them will not be diminished, all risk of giving offence will be avoided.

The first case I shall refer to will be one of severe typhoid fever, of a low asthenic type, that being the form of disease in which the most marked benefits are said to be derived from the free use of alcoholic stimulants. The patient was a member of our own profession, and was attended by two of his personal friends, the one an able general practitioner, the other a physician to one of our metropolitan hospitals. When I was asked to see the case I was told (if I remember right, for I am at present writing from memory) that it was the nineteenth day of the disease. On reaching the bedside I received a shock, for when I had last seen the patient, only a month before, he was the very picture of health. Now he lay in a helpless and prostrate state of coma, with congested eyes, flushed face, and a clammy, disagreeable-smelling skin. To rouse him to consciousness was impossible, not even so far as to get him to protrude his tongue. The other signs and symptoms being merely those of ordinary severe typhoid need not be referred to. All that I require to add is that the man seemed on the brink of the tomb. Twenty-four hours at most would apparently suffice to see him a corpse. Having satisfied myself as to the patient's state, we retired to the dressing-room, and no sooner was the door shut than I emphatically said to my two co-consultants, "I don't think that this profound coma can possibly be due entirely to the disease. His breath smells so strongly of brandy that I think it is in great measure the result of the alcohol. Were I you I would stop the brandy entirely, and give him milk and warm tea in its stead, and probably the coma will disappear." The hint was taken and acted upon, and when we met twenty-four hours later we had the pleasure of finding the patient able to answer questions quite coherently, though only monosyllabically. As the patient's state of pros-

tration was extreme the brandy was resumed, but now in only one-sixth the quantity, and in merely teaspoonfuls at a time, instead of in half-ounces as before, being only given along with beef-tea, milk, or some other kind of easily assimilated liquid food.

This was a most instructive case in more ways than one; for, among other things, there was not only twice a most dangerous relapse before convalescence was established, but the patient's whole body, for four or five consecutive days, was covered with large raised purpuric blotches, exactly as if the case had been one of purpura hæmorrhagica. And I could not help thinking that the appearing of the blotches in such a form was in some measure due to his system having been for several days poisonously saturated with alcohol. Be that as it may, the other portions of this brief report will, I think, suffice to show that even the ablest amongst us is liable to fall into the error of giving a weak patient too much stimulant. Had this man died in his comatose state, instead of recovering, the severity of the disease would have been alone blamed for it, and the brandy have altogether escaped censure.

The next case I will refer to is of a very different character, seeing that it was one in which both doctor and patient (?) were hoodwinked by the combined action of nurse and maid. The patient was a well developed buxom widow of some three and thirty summers, and when I was asked to see her I was informed that she had been subject to severe neuralgic headaches, with partial loss of consciousness, ever since she had had a backward fall from the step of a carriage, some fifteen months previously. The immediate result of the fall had been an attack of spinal paralysis, which necessitated her lying in a supine position during eight months. The cause of my being then consulted, however, was the supposed supervention of an attack of insanity, which was causing great uneasiness to the family, as her father had died an imbecile, from softening of the brain. On being ushered into the bedroom,

I found it darkened, and, in reply to my inquiry why it was so, I was told that it was on account of the patient always seeing a big black cat on the top of the wardrobe when the room was illuminated. Knowing that, if this delusion was the offspring of brain disease, it was just as likely that the black cat would be seen in the darkened as in the lighted room, I ordered the window curtains to be withdrawn. No sooner was this done than I noticed a champagne and a brandy bottle on the wash-stand, and when I stooped over the patient to examine her pupils, I perceived that the breath was strongly impregnated with the odour of brandy, while at the same time she replied in such a rambling manner to my questions, as to leave no doubt upon my mind that she was under the influence of alcohol. Notwithstanding that, I was solemnly assured by the nurse, as well as by the maid, that no stimulants, "except a very little wine," had been given to her. The sequel is soon told. Nurse and maid were firmly admonished not to give her one drop more of any kind of stimulant. A blister, which had been applied shortly before my arrival, was ordered to be removed from the nape of the neck, an ice bag to be placed upon the forehead, and milk, with soda water, and beef-tea, substituted for all other kinds of nutriment. This change in the treatment soon bore its fruits. On seeing the patient on the following afternoon a marked amelioration was found to have taken place. The black cat as well as the restlessness of manner, and incoherent talking, had disappeared, and a few days sufficed to remove the headache. Seven years have passed since then, and although the patient has had several attacks of severe neuralgia in the interval, never again has she been troubled with black cats or any other kind of mental hallucination. This fact I learned from herself a few weeks ago, when she happened to come into my study along with another patient, an intimate friend of hers. So the conclusion I have arrived at is that the appearance of the black cat, as well as of the delirium, was more due to

the excessive use of stimulants in a weak-headed individual, than the existence of any hereditary cerebral disease.

The third and last illustration of the baneful effects which sometimes accrue from the injudicious employment of alcohol in the sick room, is one which shows the dangers which may arise from giving a nurse a discretionary power in their administration.

Along with an operative surgeon I was in attendance upon a school-boy, aged fifteen, suffering from acute and severe tonsillitis. Both tonsils were incised with great relief to the distressed breathing—I should rather say impending suffocation—and on the following morning, although the patient was greatly exhausted from four or five days' extreme suffering, and total inability to swallow food, I considered him out of danger.

It so happened that on the morning in question my colleague was unable to keep his appointment, and made his visit an hour later. Finding, as I had done, that a great improvement had taken place, and thinking that stimulants might now be employed with advantage, he told the nurse to give the boy half an ounce of brandy as often as she thought fit. She accordingly did so, and began giving him a table-spoonful half-hourly. After the fifth or sixth dose the boy began tossing himself about in bed, and talking incoherently. The nurse having heard of the delirium of exhaustion, and that the free administration of stimulants was the best way to treat it, immediately jumped to the conclusion that this was a case of the kind, and that the more brandy she gave the better it would be for the patient. Accordingly she began giving it every quarter of an hour. He rapidly, however, got more and more delirious, and I was hastily sent for; the messenger stating that the boy was raving, and they could not keep him in bed. On reaching the room I found the patient tossing himself about like a drunken person, and singing as loudly as the state of his throat would permit. The delirium seemed to be nothing whatever but the delirium of

intoxication. And a few questions quickly set my mind at rest on this point. For I learned that the boy, who had probably never in his life before tasted brandy, with a constitution weakened by disease and want of food, had within six hours had certainly had not less than ten ounces of brandy administered to him. The nurse remarking that "as he was so very bad she had given him half a wineglass full just before my arrival, but it had done him no good."

The stimulants were ordered to be discontinued, and hot tea to be given instead, with a view of counteracting the deleterious action of the alcohol on the nervous system. The mischief had, however, already been done, for the boy rapidly sank into a state of insensibility and died without regaining consciousness. The result of this case taught me the lesson never to authorise a nurse, be her training what it might, nor the friends of a patient, be their education what it may, to administer stimulants at discretion; but invariably to specify a definite quantity beyond which they are not to proceed except under medical instruction.

These three cases being sufficient of themselves to exhibit my views of the baneful effects which occasionally spring from the injudicious employment of alcohol in the sick-chamber, I now pass on to the consideration of the beneficial results which may accrue from its administration. The following are its therapeutic effects:—

Firstly.—Having already said that the primary effect of alcohol is to stimulate the heart's action, I now add that I consider it one of the most valuable agents in the Pharmacopœia in cases of cardiac syncope, from its not only increasing the heart's action, but at the same time possessing the additional advantage of indirectly stimulating the brain by increasing the flow of blood through the cerebral vessels.

Secondly.—Alcohol taken into the stomach acts potently as an anti-flatulent (in cases of disengagement of gas on account of stomachal fermentation) from its possessing not

only the power of arresting fermentation, by virtue of its antiseptic properties, but likewise of stimulating the stomach to contraction, and thereby causing it to expel the already generated gas by eructations.

Thirdly.—Alcohol acts as a diaphoretic, by accelerating the circulation, and dilating the cutaneous capillaries, especially when it is given along with hot water.

Fourthly.—Alcohol possesses to some extent diuretic properties, for it increases the urinary secretion, more particularly when it is combined with certain volatile empyreumatic substances, as in the form of gin, and some kinds of beer.

Fifthly.—Alcohol, when taken diluted with hot water, has emmenagogue properties, probably by not only increasing the circulation in the uterus, but at the same time dilating its blood vessels.

Sixthly.—Alcohol has a perfect right to be denominated an antispasmodic, for it has the power, by virtue of its paralyzing properties, of relaxing muscular spasm.

Seventhly.—Alcohol may be employed in certain cases as an antipyretic, for after its primary stimulating effects have passed off, and been succeeded by its depressing action, it materially lowers bodily temperature.

Eighthly.—Alcohol is in some forms of diseases a useful soporific; for, although its action in this respect is most probably due to the same cause as opium, it can be given in cases where opium is counter-indicated, as for example in certain forms of liver disease. For it neither arrests the biliary secretion and gives rise to white stools, as opium often does, nor increases the tendency to constipation. The employment of alcohol as a soporific in liver cases, however, requires very careful handling; for reasons which may be gleaned from a glance at the mortality tables previously given.

Ninthly.—Alcohol in large doses is a powerful anæsthetic. No one can doubt this who has ever noticed the trifling effects blows and bruises have

on the dormant sensibility of a drunken man.

Tenthly.—Alcohol is an undoubted narcotic. The combined words "dead drunk" sufficiently testify this fact.

I now come to the consideration of the question, Is alcohol a food?

If by the word food one means a substance which has, like bread or beef, the power of sustaining animal life, I must emphatically deny that alcohol has any right whatever to be denominated a food. But if we extend the meaning of the word food to all simple or compound substances that in any way tend to sustain the manifestations of vital phenomena in a living being, then alcohol may be said to have a legitimate claim to be ranked in the list of foods. For although no one would dream of feeding a starving man on alcohol, I scarcely think anyone would hesitate to give a person sinking from the exhausting effects of starvation a tea-spoonful of brandy, or a glass of wine, as an immediate reviver, either alone or in combination with some form of liquid food; from practical experience having taught us that alcoholic stimulants are powerful restoratives of exhausted vitality, notwithstanding that as yet we are totally in the dark as to the *modus operandi* in which they act as revivers of organic life. And no one but those who have studied the problem of the chemico-physiological action of foods has the faintest idea of how intricate a question this is. Alcohol, for example, is composed of exactly the same three elements (C, H, O,) as starch and sugar. But this fact does not necessarily either prove, or imply, that it acts as a supporter of animal life in the same way as they do. For we know that the nutritive value of a food does not always, nor even merely, depend on the elements composing it. Nay more, it requires but a very elementary knowledge of toxicology to convince one that no value whatever is to be attached to the mere elementary composition of any given substance, in estimating either its beneficial or its detrimental effects on the living body. From the fact that it only requires a trifling change to be made in the

relative proportions of its elements to transform what may be a comparatively innocuous substance into a deadly material, and *vice versa*. This is well illustrated by the marvellous change which is brought about in the effects of compounds of chlorine and mercury on the animal system by merely doubling the amount of one of the elements. Calomel, for example, contains precisely the same elements as corrosive sublimate. Yet while it can be taken in scruple doses, not only with absolute impunity, but in certain cases with actual benefit to human life, a grain or two of corrosive sublimate, which contains precisely the same elements, but in relatively different proportions, suffices to annihilate every animal function. The only difference in the composition of the two substances having such potently different powers of action being that the one contains a double proportion of the element chlorine.

From this it is seen that we cannot speak of alcohol as a food merely because it consists, like starch and sugar, of the elements C, H, O. As far as physiological chemistry has as yet enlightened us it seems even that a substance may conduce to the support of animal life, and thereby merit the generic title of a food without being decomposed in the system, or yielding up its individual elements as nutritive pabulum to the tissues. Anything and everything taken into the stomach that tends to sustain animal vitality and thereby prolong life may therefore, logically speaking, be denominated a food. No matter whether its mode of action be in the form of directly supplying to the system materials essential to its support, or of acting beneficially indirectly, through the power it possesses of promoting the digestion and assimilation of other substances which act as supporters of life. Nay more, the mere fact of a substance being inimical to life under certain conditions in no wise militates against its being a food under others. Quite the contrary. Take hydrocyanic acid, for example, which is the most deadly of all known poisons—a single drop of the strong acid being sufficient,

almost instantly, to kill a healthy man — is nevertheless continually being taken into the stomach in the form of fruit foods. And what is still more, this same deadly poison is actually a normal constituent of the human frame. For it is met with in healthy saliva in the form of the compound sulphocyanide of potassium.* In fact the bloody appearance of the expectoration, which sometimes perplexes people when they are spraying diseased throats with perchloride of iron solution, is due to nothing else than the chemical reaction of the sulphocyanide normally existing in the saliva on the iron in the spray. One is therefore *volens volens* compelled to admit that the deadly substance we denominate hydrocyanic acid, has, under certain circumstances, as much right to the title of a human food as it has to the ordinarily recognised ones of a medicine and a poison.

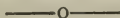
In a precisely similar way I shall now speak of alcohol, though on somewhat different grounds, as a food as well as a medicine. And in order to show that I am justified in denominating alcohol food when taken into the stomach in moderate quantity, notwithstanding I am unable to define its exact *modus operandi* in that form, any more than I am able to explain the way in which hydrocyanic acid comes to be a normal constituent of the human frame, I shall call attention to the following facts. Firstly, Dr. Hammond and others have found that patients increase more rapidly in bodily weight when taking small quantities of alcohol along with their food than they do upon the same food minus the alcohol. Secondly, all are aware that brewer's draymen, and others who indulge freely in malt liquor, are usually obese. And thirdly, the portly frame, big belly, and double chin of the Maitre d'Hôtel is proverbial. Which three facts are sufficient of themselves, I think, to prove that the use of alcoholic stimulants is conducive to bodily nutrition. A

* See author's paper "On Digestion" in *British and Foreign Medico-Chirurgical Review*, Jan., 1860.

broad distinction, however, must be drawn between the stimulating effects of spirit-drinking, and the nutritive effects of taking alcoholic beverages in the shape of wines and malt liquors. For alcohol as alcohol has but little nutritive value. The advantages of its use as a food are almost entirely indirect, through its power of aiding in the digestion (when taken in small quantity) as well as the assimilation of other and more nutritive materials. Wines and beers, on the other hand, possess true nutritive as well as stimulating properties. For, in addition to their containing the stimulant alcohol, they have the advantage of also possessing food materials in the shape of sugar, albumen, and empyreumatic substances; consequently less other food is required to be taken when they are employed, either in health or in disease.

This important distinction between the compositions and properties of brandy, gin, whisky, and rum, on the

one hand, and the various kinds of wine and fermented malt liquors on the other, is, I consider, not sufficiently appreciated or taken into account in the administration of stimulants in disease. Oftentimes the mere stimulant alcohol, in the shape of spirits, is given to the weak or ill-nourished patient, when a rich wine or a nourishing malt liquor would be a more appropriate beverage for him. Dry wines moreover are, as a rule, more stimulating and less nourishing than others. And many wines that are called dry are not dry at all; but are made to taste so artificially by having plaster of Paris added to them, as is the case with many sherries. In others of them the acetic acid instead of the alcoholic fermentation is set up, as is the case in a large number of the at present manufactured sparkling *très sec* and *brut* champagnes; which, instead of tasting dry, as many suppose, in reality taste sour, and, being actually sour, are deleterious to health.



MODERATE DRINKING NEITHER SAFE NOR WISE.*

By PROFESSOR GEIKIE, M.D., Toronto.

I AM not required to define moderate drinking, and shall not attempt such an impossibility; for what some well-seasoned so-called moderate drinkers would consider a very scanty allowance—nay, exceedingly short measure—would more or less unhinge or even entirely prostrate others whose systems, happily for themselves, remain as yet sensitive to the effects of alcoholic stimulants, even in small quantities. But I cannot help regarding, with an ever-strengthening conviction, the moderate use of drinks containing alcohol, as we see it in ordinary society, as injurious to persons in perfect health; for, at present, we are not to speak of the medicinal use of alcoholic liquors, and of their employment by persons suffering from any

ailment whatever, but simply of their use by persons in perfect health. Sir Andrew Clark most happily defines health as “that state of body in which all its functions go on without notice or observation, in which existence is felt to be a pleasure, in which it is a kind of joy to see, to hear, to touch, to live.” Now, mark his words as to the effects of alcohol under such circumstances. “This (*i.e.*, health) is a state which *cannot be benefited by alcohol in any degree*—a state which *nine times out of ten is injured by alcohol*.” He goes on: “It is a state which often bears alcohol without *sensible* injury; but I repeat to you, as the result of long continued and careful thought, it is not one which can in any sense be benefited by alcohol. I go further: this is a state which, in my experience, is *always, in some way or other, injured by alcohol*—in which, sooner or later,

* Read at a Conference of Church of England Temperance Society of the Diocese of Toronto, May 11, 1887.

the music goes out of tune under its continuous influence." The late Dr. Murchison, one of the very ablest hospital teachers in London, says: "There are persons who habitually consume what is considered a moderate quantity of alcohol, and perhaps, at the time, feel all the better for it. At length, however, disease overtakes them, and then it is forgotten that the brittle artery, the softened heart, the diseased liver, or the gouty kidney, or the other evidences of premature decay, which for years have been slowly and insidiously advancing, and which, at length, render life a burden, or terminate it altogether, might have been postponed, or perhaps might never have occurred, had it not been for the daily dose of alcohol, which induced an abnormal chemistry of the tissues, and the circulation of an impure blood. My experience has led me to the conclusion that alcohol, taken in what is usually regarded as moderation, is more or less directly the cause of a large number of the ailments which in this country (Great Britain) render life miserable, and bring it to an early close."

Listen to what Sir Henry Thompson, of London, says: "I have long had the conviction that there is no greater evil, moral and physical, in this country (Great Britain) than the use of alcoholic beverages. I do not mean by this that extreme indulgence which produces drunkenness. The habitual use of fermented liquors to an extent *far short* of what is necessary to produce that condition, and such as is quite common in all ranks of society, *injures* the body and *diminishes the mental powers* to an extent which, I think, few people are aware of. Such, at all events, is the result of observation during more than thirty years of professional life devoted to hospital practice and to private practice in every rank above it. Thus, I have no hesitation in attributing a very large proportion of some of the *most painful and dangerous maladies* which come under my notice, as well as those which every medical man has to treat, to the ordinary and daily use of fermented drink taken in the

quantity which is conventionally deemed *moderate*." The late Sir Robert Christison says that "dram-drinkers who regularly take ardent spirits several times a day, short of intoxication, are liable to kidney disease as well as habitual drunkards." Dr. Dickinson doubted the correctness of Sir Robert's view that *three-fourths* or *four-fifths* of the total number of cases of Bright's disease of the kidneys are produced by the abuse of spirituous liquors; but, more recently still, Dr. Roberts, of Manchester, England, in an article in Russell Reynolds's "System of Medicine," after having looked thoroughly into the entire question, says that "the arguments advanced are inadequate to disturb the old and almost universal opinion respecting the injurious influence of alcohol on the kidneys."

The late Dr. Begbie, of Edinburgh, one of the most eminent amongst the numerous distinguished physicians of that city, refers in his contributions to practical medicine to the influence excited by the continued daily use for a few weeks at a time of a mixture of spirits and water with sugar, in producing liver derangement, and with it a manifest increase of fat (in that organ), which subsided on the disuse of the stimulating drink,

I quote Sir Andrew Clark again where he says "that 70 per cent. of his hospital patients owe their ill-health to alcohol." He guards himself thus:—"I do not say the 70 per cent. were drunkards—I do not know that one of them was what you call a drunkard. There are many men we know to be drunkards. They get drunk and get sober, and are so much ashamed of themselves that they won't touch drink for months, till someone tempts them. These are not the men who suffer most from alcohol. The men I allude to," he goes on to say, "are the men who are habitually taking a little too much. The curse of this is that they feel so jolly and comfortable, so full of jokes and fun, that other short-sighted people almost envy their condition. These are the men who go into company, who are full of life, who are always begging

you to have another glass. They are very good fellows, do their work well, but they are always drinking just a little more than the physiological quantity" (which, in passing, I may explain, is the exceedingly small amount which Sir Andrew Clark and some other scientific authorities think can be taken without injury; a quantity which the present Bishop of London says has become more and more moderate as time goes on, so that if these authorities continue the present rate of its diminution, the amount allowed will, his lordship asserts, have reached the vanishing point in the course of fifty years).

"Now these are the men," Sir Andrew goes on, "who, taking a little more than they require, or can use, looking well—yea, often feeling well—are yet being sapped and undermined by this excess. Day by day, just as the grass grows, and you cannot see it. Day by day this excess, often a little one, is doing its work. It upsets the stomach; the stomach upsets the other organs; and bit by bit, under this fair and genial and jovial outside, the constitution is being sapped, and suddenly, some fine day, this hale, hearty man, whose step seemed to make the earth rebound again, and the rafters re-echo with his tread, tumbles down in a fit—that is the way alcohol saps the constitution. As I looked at the hospital wards to-day," says Sir Andrew, "I could but lament that the teaching about this question was not more direct, more decisive, more home thrusting than it ever has been." Now, in view of the testimonies given by authorities, whose eminence and perfect want of any special leaning or bias none can question, as to the effects of drinking to an extent recognised as moderate, because very far indeed short of intoxication, I ask, Is not this so-called moderate drinking most unsafe?

In an article on Hypochondriasis by Dr. Gull and the late Dr. Anstie, both of London, England, the following occurs—and it is very striking:—"Alcoholic tinctures should be very cautiously employed in such cases, if

at all, for there is a real danger of the patient coming to appreciate the comforting sensations given by the spirit so highly that he or she gradually takes to drink. This is especially true in the case of hypochondriacal women, as it notoriously is in hysteria." Now, if this be true, and none can doubt it, of hypochondriacal and hysterical patients, whose prescribed doses of tinctures, you will mark, are small, and therefore contain exceedingly little alcohol—if, I say, for the reason given by these eminent authorities, it is wise to be so very cautious in our use of alcoholic preparations of drugs in such cases, and unsafe to be otherwise—is it, I ask, not very often unsafe for many persons in health to go on moderately using alcoholic drinks which are not at all necessary, and *for which* some find it so easy to acquire a craving more or less strong? As a matter of fact, is the transition from moderation to excess not going on before our eyes every day in Toronto and everywhere else, giving only too much foundation for the opinion that "moderate drinking is only too frequently the downhill road to intemperance?" There are many of our young people who, notwithstanding their comparatively short experience, can give illustrations of this sad fact, and hardly a man or woman who has reached middle age who cannot recall the very faces and voices of numbers whose lives, once so promising, have been thus utterly wrecked. And are we who are now here, think you, as we reflect on the sad picture from which memory for a moment lifts the veil, justified in laying to our souls the flattering unction that, although others may have stumbled, our footing is and will remain quite secure; that while many we have known well have altogether fallen, yet for us there is and can be no danger? Who can forbear in this connection recalling the familiar words "Wherefore let him that thinketh he standeth, take heed lest he fall."

I have already hinted that moderate drinking, as practised by many, means a pretty free use of alcoholics.

Listen to Mr. Erichsen, of London, one of the most eminent of living surgeons, as he adds his testimony to that of others in regard to the condition of blood brought about by introducing into it what had much better be anywhere else.

The blood, he says, may be rendered impure by the addition to it of some substance not normally present. The most common and most important illustration of this is the habitual presence in the blood of an amount of alcohol in excess of that which can be easily eliminated or consumed. A healthy country labourer, working hard in the pure open air, may consume and eliminate rapidly a large amount of alcohol, but the city workmen, with their frequently sedentary occupations in ill-ventilated and, we may add, too often badly drained workshops, are less able to get rid of the alcohol they have consumed. Mr. Erichsen speaks of this as the constant condition of very many of the working classes in large cities, "and it exerts," he finds, "a most prejudicial influence on all operations and diseases occurring amongst this very numerous portion of the population."

Some people in vigorous health, with appetites leaving nothing to be desired (and it is of the healthy one alone that I am treating this afternoon) use alcoholic drinks regularly to increase digestive power, forsooth. Can anything be more absurd?

The late Dr. W. B. Carpenter, whose "Human Physiology," edited by Power, is to-day one of the most reliable text-books, says pertinently: "Why should a healthy man desire to increase this? His stomach secretes enough gastric juice to digest all the food he eats. Why should he provoke it to do what is not required for digestive action? We do this," says the Doctor, "at the expense of subsequent loss. We lose afterwards all that we seem to gain."

Some may say: "We have known this very thing done for years with apparent impunity." But the fact that a man may continue for years to do what is prejudicial to a certain extent to so patient and long

suffering an organ as his stomach by no means proves that the alleged injury is merely hypothetical. The digestive functions of healthy persons, stimulating needlessly, comes at length to call for the stimulant without which the person accustomed to it tells you truly he does not now feel anything like so comfortable. Is it safe or prudent for a man in perfect health to bring himself by the use of stimulants to a condition in which at length his digestive organ won't do its duty fully without alcoholic coaxing? I think it far safer and better for us who are quite well to have our digestion carried on in the original old-fashioned way, entirely independent of the bottle.

Ours is an age of great brain work, it is said. Clergymen, doctors, lawyers, teachers, literary men, are to be found who undergo a great deal of intellectual labour. Some of them think moderate drinking is indispensable to the doing of their work fully and well, and many bear an astonishing amount of this apparently well—but I am satisfied that if a man has to goad his brain to do its duty by the use of stimulants, he is, albeit unwittingly, doing himself a most serious injury. Hear Sir Henry Thompson on this point: "Of all the people I know who cannot stand alcohol it is the brain-workers."

You are all aware that in our day, whether a man be a clergyman, medical man, lawyer, business man, or a mechanic, it is in every department the men of brain-power who alone are truly successful and useful, and whose reputations will be lasting—I will say nothing of the clergymen in this connection, many of whom you have heard and will hear during this conference, speaking for themselves—but will refer briefly and respectfully to lawyers. The members of this profession in large practice have to work very hard, and to do a vast deal of their work in preparing cases when most other people are asleep. Some assert, I hope an ever-lessening number, that they cannot undertake what has to be done without the aid of alcoholic stimulants. How often this

has proved a fatal error. Many of us can recall not a few of the very ablest and most promising members of the Bar, whose career has ended all too soon on account of their having tried this suicidal plan of brain-forcing. Many are now following the same terribly mistaken course; let them take warning ere it be too late, for it can only end in destruction, often speedy, always complete. As Sir Andrew Clark truly says: "Alcohol in moderation is no real favourer, but rather a hinderer of work in the long run—whether it is work with the brain or the hands."

What is true of the legal profession is just as true of the medical. I shall not take up your time in proving what needs no proof. Let Sir Andrew Clark again speak: "Every man who comes to the front of a profession in London" (and he includes in this his own as well as others) "is marked by this one characteristic, that the more busy he gets, the less in the shape of alcohol he takes." His excuse is: "I am very sorry, but I cannot take it, and do my work."

Teachers have the same experience. The Manual of Hygiene, recently most carefully prepared and issued by our Ontario Board of Health, a little work, full of most valuable information, says: "Teachers should abstain from all intoxicating drinks in order to cultivate that physical and mental vigour required of them; it is very necessary that no habits should be indulged in which may in the slightest degree impair their health."

As regards the effects of drinking on business men, I will quote a sentence only from a very shrewd authority, and a scientific one on such a point, the *Chicago Tribune*: "Moderate drinkers, engaged in pursuits calling for judgment and acumen, and who use liquor during business hours, end with scarcely an exception as financial wrecks, however successful they may be in withstanding the physical consequences of their indulgence. Thousands who (apparently) retain their health, and are never ranked as victims of intemperance (mark, they are moderate drinkers), lose their property,

wreck their business, and are thrown to bankruptcy because of tippling habits during business hours." But I must close, and shall give you but one item more.

In July, 1885, this question was, amongst others, propounded to the Ontario Medical Association, a large and thoroughly representative body of Canadian medical men, "Is the beverage use of alcoholic liquors by persons in health beneficial?" The answer, prepared by a carefully selected committee, and adopted by the association, is a simple "No."

Dr. T. Lauder Brunton, our highest therapeutical authority, well remarks: "So long as a man is healthy, eating well and sleeping, he does not need alcohol, and, as a rule, is better without it."

In thus endeavouring in a short time to give but a few of the many reasons which show moderate drinking to be unsafe as well as unnecessary to persons in health, I fear I have trespassed on the time of speakers who are to follow. I shall not touch upon the second head of my subject, because if moderate drinking has been shown to be unsafe, it goes without saying that it must be unwise. And while I would not even say one strong word regarding any who take a view of this subject different from my own, I cannot help feeling very strongly in observing the multitudes who are constantly passing from amongst the moderate drinkers to swell the ranks of the intemperate, how desirable it would be that still larger numbers than ever of our people of every class should see their way clear to denying themselves in this matter for the sake of example to the many amongst us who must either totally abstain or go down to drunkards' graves. To multitudes this amount of self-denial would be simply infinitesimal in comparison with what has been done for all His redeemed ones, by Him, who though rich, yet became poor, that we through His poverty might be made rich.

A paper in favour of "moderation" having been read at the same Con-

ference as that to which Professor Geikie's paper was submitted,

Dr. AIKENS said no money would induce him to deliver such an address as that read by the previous speaker to a class of students. He could write on the wall the names of many physicians, barristers, and even judges, in Toronto, who had gone down to their graves through being led into excess by the at first moderate use of liquor. In one case where alcohol did good in sickness there were nine cases where it did harm. After thirty-eight years' experience in dealing with sickness, he had found that there was a large class of men who had the hereditary taint of alcoholism, and this class would be always in danger from the moderate use of liquor. He would like to inquire whether the highest type of religious life devoted itself very much to moderate drinking? Hereditary taint was potent, it is known, often to the sixth generation. Youths and men who exerted their brains much were very

prone to falling victims to alcohol. He regretted, for this reason, the systematic cramming of the students at the public schools. More physical exercise, to build up bone, muscle, and sinew, should be given. He abstained from alcohol for the sake of others, as his example might have an influence on others. If total prohibition were carried, hereditary drinking might have a chance to die out. It was not safe to let young men drink even moderately; it is not prudent, nor is it right. Men who are studying, and require to use their brains constantly, have no right to drink. Thirteen years ago, when he went to England, he was told that he would have to take beer, owing to the climate. He took two or three glasses, but found that he could do better by taking none, and felt very well without. Life is too short, and we must avoid the very appearance of such evils as tend still further to shorten it.

THE MEDICAL MAN'S RELATION TO THE TEMPERANCE QUESTION.*

By T. N. KELYNACK.

AMONGST many social questions engaging the attention of the public, there is one which pre-eminently demands the unprejudiced and impartial consideration of all medical men. The temperance question calls earnestly for a clear, scrutinising, scientific investigation, and certainly to no body of men has the public a greater right to look for a straightforward solution than to the medical profession.

The time has come when every practitioner must clearly recognise and openly avow his position as regards this difficult but important subject. So much prejudice, bitter feeling and intemperate language, have

unfortunately often accompanied its investigation, that it behoves all lovers of truth—and such all true scientific students are—to honestly recognise and boldly declare the truth, however objectionable it may be, or whatever that declaration may involve.

Alcohol, the active ingredient in all our intoxicating drinks, is an agent which is doing incalculable evil. This is a fact, known to all, yet unfortunately neglected by many. The primary cause of this evil, however widespread, is due chiefly to its characteristic effects on the mind and body. With these it is the duty of every medical man to be acquainted. He is daily compelled to witness the dire results following the use of alcohol, and yet they by their very frequency often fail to arouse his astonishment or elicit any earnest

* An introductory paper to a discussion. Read November 21, 1887, before the Owens College Medical Christian Union.

endeavour in searching for a means of actually attacking the cause and originator of so much disease and indescribable suffering.

The medical practitioner is not merely a "disease curer." His work is not simply that of repairing injured animal machines, but rather that of a public guide, who, recognising that the ways of Nature are the true paths of peace, desires to lead the unheeding people along that road which shall be physically and morally safe. He must lead and not be led by public opinion.

Examine a few of the more important reasons why this subject claims the attention of every medical man.

1. Alcohol, the very agent lying at the root of the evil, is one of the physician's most powerful drugs.

It has been prescribed by medical men of all schools, for almost all complaints, in all quantities and at all times. Surely this fascinating drug should be directly under the physician's control and absolute supervision. The public have no greater right to tamper with so dangerous an agent than they have to use daily injections of morphia or continuous doses of chloroform. Yet this therapeutic agent has been snatched from the doctor's hands; its administration rests no longer solely with him, and even when he would desire to give it as a legitimate medicine he often finds that his patient has by habitual use nullified many perhaps useful effects which as a drug it might have produced.

2. Alcohol has not only been withdrawn from the rightful jurisdiction of the physician, but it has even been declared that it should not be designated a drug, that it is indeed a genuine food.

Such opinions prevail not only among the lower classes but largely with educated people in all ranks of society. Many declare and firmly believe that it is indispensable for the preservation of health, and from this belief, in many cases strictly honest, there naturally results habitual use of alcoholic beverages, which in innumerable cases is followed by disastrous and irremediable effects. It is constantly affirmed that it is a powerful

agent in increasing strength and giving powers of endurance both physical and mental. It is alike used for subduing heat and withstanding cold. In fact its marvellous properties are often stated to be little short of miraculous. Alcohol, however, is undoubtedly an unnatural constituent of any drink. Whatever is unnatural almost invariably proves to be deleterious, and indeed the whole gospel of the physician is nothing less than a call for reconciliation between man and nature.

3. Alcohol produces an increased liability to accidents of various kinds, it predisposes to many forms of disease, and in very many cases is actually the exciting cause.

That such is the absolute truth our Hospital records only too truly show. Practitioners in all parts of the world admit it. Army and navy investigations testify to the same, while the statistics of insurance companies conclusively prove the longevity of non-alcoholic drinkers as compared with those who take alcohol either in so-called moderation or in recognised excess.

4. Alcohol destroys the foundation of morality by rendering self-control more difficult and at last impossible.

Physical incapacity is, broadly speaking, inconsistent with moral well-being. The very foundation of the evil resulting from indulgence in alcohol is due to its physical influence. This agent, insidiously attacking the highest system of the body, influences the brain by affecting the highest centres first, and judgment, the priceless possession of every man, is the first to fall. The medical practitioner is often in danger of forgetting or disregarding the fact that man is a trinity, and that in influencing the patient's body, for good or for evil, he is also influencing the mental and spiritual elements of the individual. Drink is essentially *the* great cause of crime, and yet all those moral evils which are grouped under that one word arise primarily through the direct influence of a drug on the physical nature of its victim.

5. Not only does alcohol disastrously affect the individual but the

evil effects are entailed on his offspring.

The laws of generation, which are indeed a protection to the race, may not be infringed and cannot be evaded. They are of paramount importance, and although often disregarded they are none the less real. Experience and minute observation have clearly shown that in very many cases the children of intemperate parents die prematurely, often after dragging out a languishing or even depraved existence.

Thus these few reasons alone, out of many others, clearly prove that the medical man has certainly some very important relation to this Temperance question. But after carefully recognising the evils arising from the use of alcoholic liquors what means may or must he take towards lessening or aiding in annihilating the evil?

First, the most important and also the usual method adopted is to attack the cause itself if that cause be still existent or discoverable. There is only one cause in the present case, although the evils resulting therefrom are manifold. The cause is alcohol. What must be done with the cause? Various methods, suggestions and plans, have been devised.

Governments recognising the evil have sought to limit its extent by legislative interference. Laws regulating the manufacture, enactments limiting the sale, and regulations protecting the buyer, have all attempted to grapple with the cause.

Associations and organisations of various kinds have by different methods endeavoured to educate and instruct the ignorant, and by means of physical and moral influence counteract the national evil.

But the cause still exists and humanity—frail, weak and irresolute—is still the victim. The cause still creates the evil. Nevertheless while some have advocated a lessened use of the cause, others, while recognising the advantages of moderation, declare that the only safe, scientific and generally practicable method of abolishing the

evil is to absolutely abolish the cause. They, in fact, advocate total abstinence from all alcoholic drinks.

This last method of dealing with the evil, although somewhat drastic, appears to be the only logical one yet brought forward. Other attempts have failed or have been of limited benefit, but total abstinence is absolutely a specific cure for the evil, the cause itself being eliminated. Thus the medical man is driven to take the only scientifically safe course of—abstinence. Compelled to take this standpoint himself, he naturally can enunciate a doctrine which is theoretically correct and experimentally safe. From his very position he must teach, he must influence, he must direct. No position of neutrality can be allowed him. By accepting his public position he accepts its responsibilities and his very qualification is a command to lead. It is, therefore, both his privilege and duty to diffuse light and knowledge and to dispel erroneous beliefs relative to the value of alcoholic liquors as ordinary articles of diet. Moreover nothing can justify a loose, thoughtless or unscientific practice of ordering alcoholic liquors to children, young females, or reformed inebriates. The medical practitioner's responsibility is at all times great, but should he by careless prescribing initiate, resuscitate or perpetuate the alcoholic habit, he justly merits lasting reproach.

The physician must be, as far as he individually is concerned, master of alcohol. It has been stolen from the drugs on his shelf and it must be reinstalled there, and, even then, its dangerous nature must be clearly recognised and ever kept in view.

Finally, having thus distinctly recognised his relation to this vital question, the medical man, swayed by no mere popular opinion, takes his true position, based upon physiological and pathological truths, and consistently by precept and example aids struggling humanity to reach nearer to that perfect ideal—Man the Creator's image.

THE ALCOHOLIC QUESTION MEDICALLY CONSIDERED.

By T. D. CROTHERS, M.D., Hartford, Conn.

(From *Proceedings of the Connecticut Medical Society, May, 1887.*)

THE famous Dr. Tully wrote fifty years ago, that "Alcohol was both the most dangerous and most valuable of remedies." The scientific studies of half a century have not only confirmed this view, but indicated the value and danger from the use of alcohol beyond the wildest theories of its most ardent advocates and bitter opponents. The prohibitionists and alcoholic Nihilists have never realised its real danger and injury to the race. Neither has the most enthusiastic disciple of the Todd and Bennett school ever conceived its place or real value in therapeutics. One reason for this is, that alcoholic compounds are the most uncertain, unknown, and empirically used of all substances in medicines. Compounds of whisky, brandy, gin, wine, and rum, are never the same, but are forms of alcohol constantly changing, developing ethers whose action on the organism of the body in health or disease is exceedingly variable and uncertain.

As an illustration, alcohols vary in their origin, mode of preparation, condition, and surroundings, and have different effects on the organism, subject to a great variety of conditions. The alcohol of whiskies made in a similar way may differ widely, both chemically and physiologically. The alcohols of one year may vary in their effects the next year. Chemical changes have taken place, and new compounds and ethers have been formed. The ordinary alcohols of commerce, which are ordered with care for fear of the adulterations with foreign substances, may contain the most uncertain ethers and poisonous forms of alcohol that can only be ascertained by skilful analysis. The effects will vary widely, and be ascribed to other causes.

Some faint conception may be formed of these compounds of alcohol, from the experiments of Beau-

metz and Audge. They gave two years of study and experiments to this subject, and succeeded in separating and experimenting with six different alcoholic classes. Some of these classes of alcohols likely to be found in any of the liquors on the market were motor paralyzants of the muscular system. Others had a peculiar irritative action on the brain; others acted on the spinal centres; some were distinctly narcotics, destroying sensation, acting on the heart specifically, and so on.

Dr. Richardson, in his experiments to find a safe and reliable anæsthetic from alcoholic ethers, has outlined a vast field of new combinations of alcohols whose effects on dogs and other animals are simply marvellous. Ether, chloroform, chloral, and other agents which have revolutionised the art and science, of medicine are all forms of alcohol. All studies in this direction indicate still more wonderful compounds yet to be discovered, of which these may be literally only simples. The old alcohols of commerce whose bouquet and qualities are prized, contain these complex unknown ethers, which await future discovery.

The present methods of using alcoholic drinks or medicines, with no other facts, except the name and the supposed per cent. of alcohol, and no knowledge of the kind of alcohol other than its age, are exceedingly empirical and unscientific. The only safe way in which any form of alcohol can be used as a medicine is in fresh new wine or grain spirits. Never give any of the popular forms of alcoholic drinks; they are uncertain and unreliable. The possibilities of finding in alcohol remedies which will suspend, alter, or change diseased action in many ways, exceed the wildest dreams of therapeutists, and are more certain every year. While

all scientific research indicates the most startling discoveries of new remedies in this field of alcoholic compounds, it also points out unknown perils and dangers in the present indiscriminate use of spirits. The scientific investigator is startled at the effects of isolated alcohols on the lower animals. These very alcohols compose many of the common drinks of commerce, and their effects on the human organism are the same, only modified and concealed. It is evident that our inability to obtain a full history of these cases prevents such a recognition.

Many cases of serious and fatal diseases will be traced in the future to these complex alcohols. It is also evident that alcohols are far more responsible in causing disease than is supposed. The influence and teaching of the medical profession on this great popular drink question is most imperatively demanded. To endorse or use alcohol indiscriminately as a beverage or medicine, or to denounce it dogmatically, reflects on the scientific intelligence and judgment of the physician. The physician should be the teacher in every community and not the follower of theorists, moralists, and temperance reformers, or advocates of spirits. As a scientific man, the physician should know the facts and the progress of research in this direction and be himself an investigator. He can procure isolated alcohols and test them in health or disease, on the lower animals or on man. He can trace the degenerations from alcohol which follow an observed order of events and point out the line of march, both anticipating and preventing it.

The "alcohol question" is a medical one that is destined to occupy a wide field of practical science. To-day it is in the first stage of agitation and empiricism. The reckless sale of unknown alcohols, and the thousands of poor diseased inebriates, point unmistakably to our ignorance of the nature and character of alcohol. The confusing variety of remedies urged from the pulpit, rostrum, press, and legislative hall, all indicate the same ignorance. All this is but the thunder

and noise that precedes the still small voice of science and truth, which the physician must interpret.

All the facts known of alcohol can be placed on a single printed page, yet a thousand volumes are written, and text-books are constantly coming from the press, to teach the nature of alcohol in the common schools as a means for checking the inebriety of to-day. Alcohol is without doubt the least known of any therapeutic agent in common use. The administration of different forms of alcohol, as whisky, rum, wine, and gin, for some supposed peculiar action on the body, is without any scientific reason or basis of facts. The observations of the most accurate observers using one form of alcohol, such as whisky, are contradicted by the next observer who may use the same whisky in the same cases. This confusion is never harmonised and never can be, because both the nature of the alcohol and its action on the body are unknown.

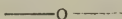
Medically and scientifically the whole subject is a "polar region" of mystery. There is no other way of discovering the facts, except by accurate study, and slow, laborious marches into this region, where the observations of yesterday must be continually compared and corrected by the revelations of to-day. It is too early for physicians to teach authoritatively other than that alcohol is a most valuable and dangerous remedy. Its value is not in the compounds of commerce; but in the primitive alcohols and ethers that are yet to be studied. Its danger is distinctly indicated in the effects of separate alcohols and ethers on both man and animals.

The moral, political, and social aspects of the alcoholic question, must all turn on the investigations of physicians. The physician as an explorer must go ahead and map out the country and show its *people, flora and fauna*, and the natural laws and forces which govern it; then the missionary, clergyman, law-maker, and reformer, can come in and be useful. To-day this is reversed. The moralist, temperance reformer, and legislator, are trying to occupy and settle a territory that is

unexplored, whose laws and inhabitants are unknown. The drink problem, and what to do with the inebriate, can never be settled, until studied by the physician; and the physician who joins the army of theorists has failed to recognise the subject, or his duty to the world.

Some of the conclusions which the farthest researches of science indicate most distinctly to-day, may be stated as follows: 1st. Primitive or simple alcohols, or their ethers, are agents of most marvellous power over the organism. Ether, chloroform, and a few other of these combinations, are examples. 2nd. Researches show that these primitive alcohols are almost innumerable, and are present in all the compound drinks of commerce; also that they vary widely in their action on the organism of the body. 3rd. The progress of research indicates beyond all doubt, that many new and wonderful combinations will be discovered whose action on the body

will far exceed the ether and chloroform compounds. 4th. Each step in advance reveals the error of prescribing all forms of common drinks of commerce. It also shows that only pure primitive alcohols should be used, such as fresh corn spirits, or spirits of wine. Even with these the most careful observation and discrimination are necessary, and the possibility of harm is always prominent. 5th. Alcohol is so very uncertain, and so little known, that it should only be used with great caution and care and under circumstances where exact observations can be made. 6th. It follows from this that all dogmatism is a sign of imperfect knowledge and acquaintance with this subject, and efforts to reach and remedy the evils of the drink problem from the present imperfect knowledge of the subject must fail. 7th. Lastly, the physician of all others should study this subject from a purely medical standpoint; the facts can never be ascertained in any other way.



LICENSED RETREATS FOR DRUNKARDS.

MR. H. W. HOFFMAN, the official Inspector of Retreats, has addressed his seventh annual report, dated July 31, 1887, to the Home Secretary, as follows:—

I have the honour to submit the annual report required by the Act of Parliament on the retreats licensed by the local authorities for the year ending December 31, 1886, and to enclose the usual statistical schedule.

1. The aggregate number of patients (male and female) admitted to the five retreats licensed during the year was seventy-three, a decrease of four from the number admitted during the previous year.

2. The general condition of these retreats, and the health of the patients admitted therein, have been very satisfactory on the whole, and I have only to record one death during the twelve months.

3. Nothing of any great importance

has occurred at these retreats during the year requiring special comment, and no prosecutions have been found necessary against any person for contravention of the provisions of the Act or of the model rules authorised by the Secretary of State.

4. These model rules have not in any way been altered or added to.

5. I have selected the following extracts from reports furnished to me, which give the experience of the various licensees as to the working of the Act, and the results of treatment at their respective establishments during the year.

DALRYMPLE RETREAT. — “During the past year I have been often cheered and encouraged by letters and visits from old patients, who are doing well and who are grateful for the assistance and treatment which have enabled them to overcome their desire for drink. Some of these are now occu-

pying responsible positions in the clerical, medical, and legal professions, and others also in business are useful members of society. A certain number of patients (with the exception of one letter of thanks after leaving) I have not heard from, and consequently can have no idea of their present condition. Some have gone abroad, and the difficulty of tracing them is great. Others, considering the competition in all conditions of life, and assuming that any knowledge of their having had at any time to take refuge in a retreat would materially affect their future prospects, have left us with the avowed intention of blotting out, as if it had not been, such a period of their existence. Others may not have communicated because they had no good to report. With regard to these unsatisfactory cases, when it is remembered how long many have been drinking heavily (fifteen or twenty years in some cases) before they come under treatment, how liquor-soaked their every organ is, how impregnated and altered by alcohol every tissue and fibre has become, and how incomplete the existing legislation for restraint is, the wonder will be that the cures are so many. There are those who seem to expect the habit and condition of a lifetime to be changed in three or four months, but this is an unreasonable expectation. I am of opinion that very few are hopeless cases if they will only give themselves time. A period adequate to confirm a cure is the key to the whole question. At least twelve months' residence in a retreat ought to be aimed at in most cases. Many applicants for admission, although anxious to avail themselves of the provisions of the Act, have absolutely refused to undergo the ordeal of signature before two justices, especially when, as happened in some of my own cases, it had to be done in open court. It appears to me that everything should be done to make the road to the home as easy as possible. With regular Government visitation, and ample facilities for appeal, no danger of ill-usage, or abuse of the Act, could possibly occur."

COLMAN HILL RETREAT.—"On the whole, last year's work has been most encouraging. We still continue to find more willingness to sign under the Act, and if it were not for the necessity of appearing before two magistrates, we have little doubt the bulk of our patients would enter under it instead of as private patients. The result, as far as treatment is concerned, during the past year has been most satisfactory, and gives promise of permanent benefit in a large number of cases. We continue to receive good reports of a number of the patients who have left the retreat. In several instances where they had not a home of their own to return to they are holding appointments with profit to themselves and satisfaction to their employers. It seems to us a pity that the Home Office requires that the two witnessing magistrates should be justices of the same county. In this part of the county it works very inconveniently, as it often happens, owing to the way in which the counties dovetail in, that two magistrates living close together belong to different counties, and much confusion has arisen in consequence. It is often difficult to get two justices of the same county."

HIGH SHOT HOUSE RETREAT.—"I am perfectly satisfied with the result of the year. The Act has worked most beneficially. I am of opinion that if only one justice of the peace could attest the request for admission, either in court or at his own residence, many more would avail themselves of the opportunity of being 'under the Act.' Besides the ten admitted under the Act, there have been fourteen admitted as 'private patients.' Eight of these would have been under the Act but for the fact of having to appear before two magistrates."

OLD PARK HALL RETREAT.—"I have had some pleasure this year in the working of the Act, and have not had to apply for any of the stringent provisions, and this I attribute to Old Park Hall being so suitable for the purpose. If patients are to do well they must not be exposed to the world and temptations. I have had no cases of drinking during the year. The

great difficulty still exists of getting two justices which the section requires, and the difficulty has increased by the last order from the Home Office, that they must be two county or borough justices having jurisdiction in the district where application is made. I have found the labour and occupation about the gardens and grounds very beneficial to the patients."

TOWER HOUSE RETREAT.—"That the Habitual Drunkards Act is a great boon to the community at large no one can deny, but before it can be more universally adopted, so as to bring it into general use, all the degrading element must be taken away; for instance, many patients have flatly refused to sign a paper which describes them as 'habitual drunkards,' and although many may come within the meaning of that term, there are some who only occasionally take too much stimulant, but who are nevertheless desirous of placing themselves under complete control, in order that they may be cured of their weakness, and these naturally object to sign a paper which they imagine would stamp them as worse than they really are. Even in the case of 'habitual drunkards' they take it as a personal insult that they should be asked to sign themselves as such, and in many cases decline altogether to put themselves under control under such circumstances. Attention has already been called by all the licensees to the great difficulty in getting *two* magistrates to witness the signature; it is sometimes a difficulty to get one, but when the patient has to be taken from place to place in order to find *two* magistrates *together* the difficulty is almost insurmountable. If the Habitual Drunkards Act is to do the good it is intended, it must be made to work more smoothly, and all objectionable matter taken out. With this object in view I consider that all the licensees of the different retreats should arrange a meeting to thoroughly discuss the matter, and should submit to the Home Secretary certain alterations and modifications to the

existing Habitual Drunkards Act. I am well aware there are very many who take great interest in the temperance cause, but none are able to give such advice on the subject as those who have had the management and are licensees of retreats."

6. Section 19 of the Act, which enables a licensee to apply to a justice for a patient's leave of absence from a retreat, has been taken advantage of at some establishments; and section 12, which empowers a justice to discharge a patient at the request of the licensee, has been occasionally put in force; but I have not found it necessary to recommend the Secretary of State to discharge a single patient during the year under section 15, nor has any judge been called upon to exercise the power of inspection and discharge given him by section 18.

7. The facilities for the discharge of a patient before the expiration of the time provided for by the above sections should, I submit, be borne in mind when the question of the proposed amendment of the Act with respect to section 10 of the original Act is under consideration. The section to which I refer directs that the signature of the applicant for admission into a retreat shall be attested by *two* justices of the peace.

8. I am satisfied that the complaints as to the difficulties in obtaining the presence of two attesting justices are not made without good reasons, more especially now that it has been decided that both justices must be in the commission of the peace for the place at which the attestation is made.

Under the circumstances I am inclined to think that the attestation might be left in the hands of one justice without danger to the liberty of the subject.

9. In conclusion I should mention that a new retreat for Roman Catholic women has been opened under the Act during the present year (1887) at Montague House, Brook Green, Hammersmith, under the superintendence of Mrs. Smith.

A NEW WORK ON INEBRIETY.

THE Superintendent of the Washingtonian Home at Chicago has published a work* which has excited some interest in the United States. A case of delirium tremens which the author met with when only seventeen years of age led him to resolve then and there to pledge himself to God that he would devote much of the energies of his life to "the great and important cause of total abstinence;" and that pledge he has faithfully kept, as for upwards of forty years there has hardly been a week that he has not been interested in some inebriate whom he has endeavoured to help, and he now devotes his life to the work of reformation.

Mr. Wilkins is of opinion that men use narcotics on account of their *anæsthetic* influence. "If I am in pain, and put alcohol into my brain, I think it has cured me; from the fact that it suspends the perception by which I am made to feel the pain, I think it is my best friend, and hence I continue to use it. In financial trouble or family affliction, precisely the same thing occurs." Alcohol is thus a great deceiver. It promises liberty, and inflicts bondage; offers life, but causes death; and is, therefore, the great enemy of man. The author has no sympathy with moderate drinking.

"No moderate drinker ever expects to be a drunkard, and if he will let the first glass alone there is no danger; but, this taken, he can little realise what will follow. When the first glass is received, his moral affections are the strongest to resist, and from the fact that it is the nature of alcohol to weaken these moral affections, and undermine the keen, discriminating power of conscience, all the moral power he has to help him to refuse the second glass is inadequate; hence

the *sin* must be in taking the first one, for it is this glass that opens the gateway into the highway that leads to intoxication. The great battle in behalf of total abstinence must be fought in the field of moderate drinking."

"Those who drink right along and never get drunk persecute habitual drunkards more than any other class."

"A reformed man cannot become a moderate drinker. If he does not want to become a gutter drunkard he must for ever repudiate that first glass; he must be an absolutely total abstainer from everything that intoxicates. Banish, too, for ever from the mind the delusion that emotional power is reformation." "What a mighty being a man may be with his emotional nature directed and supported by his conscience and moral affections! But the man who trusts only in his emotional nature to battle with the power of drink never has conquered, and never will conquer." "The first drop that is taken is just as damaging as the last drop, and, therefore, total abstinence is the trumpet-note of reform."

Some striking instances are given of the danger of taking alcohol as a medicine. We quote the following:—

"In a village adjacent to my own native town in New England lived a man eighty years of age. He was a pattern of morality and integrity—a grand and noble Christian man. He was a deacon in the Church, and to know him was to love him. He was taken suddenly sick. At that time it was customary and considered *right* to drink; no one among his acquaintances knew that he had any passion for stimulants, but when on that bed of sickness his physician prescribed a stimulant, he said: 'Doctor, I dare not drink it. Forty years ago, before I came to this section of the country, I was a miserable drunkard. I had to leave my old home and get away from my old associates, to break the tyrannous habit that held me, since which

* "The Curse of the World. Narcotics: why used; what effects; the remedy." With numerous coloured illustrations. By Daniel Wilkins, M.A. Chicago: The Blakely Printing Company, 1887.

time I have not dared to touch anything of an alcoholic nature.' The doctor laughed at him, however, and insisted upon his taking the prescription as the one condition of his recovery. He took the stimulant, and in less than three years died with delirium tremens. The old latent fires that never go out had been aroused, the treacherous flames of passion burst out with redoubled fury, and he could not conquer them. It cannot be too strongly urged, or too firmly grasped, that the only safe stand for those who have been drinking men to take is total abstinence for ever from all that can intoxicate."

Upon the vexed question of heredity the views of Mr. Wilkins are somewhat different from those with which we have recently become familiar. He states that "the record of the reformatory institution, of which the author is the superintendent, shows that of 6,315 admitted from January 1st, 1877, to January 1st, 1887, only seventy-seven would admit upon examination that they inherited their appetite or demand for liquor from their parents. From these facts it is submitted that men drink intoxicants not from any hereditary desire for them, more than for anything else, but from an acquired appetite or demand resulting from the longings which spring from the inordinate emotions and desires of man's fallen nature."

"Man is so constituted that through much toil he becomes weary, through great adversity and disappointment he becomes anxious and discouraged; from bodily suffering and mental pain and melancholy he demands relief; from continued excitement, nervous prostration and weakness, he must have rest. Thus we are forced to conclude that anything which would relieve men in this condition, in whole or in part, would be grasped with intense eagerness, not from a physical disease produced by intoxicants, but from the fact that the use of these intoxicants would relieve it, if only temporarily. This admitted, it would follow as a sequence that those in whom these desires and emotions are

the strongest, would the most naturally and easily indulge in these intoxicants. Facts from the beginning substantiate this position, not that man is naturally an inebriate, or that even he has inherited an appetite or demand for alcoholic drinks from his parents, but that by the use of intoxicants he creates this appetite or demand. If it is hereditary then it is not acquired, and facts go to show that the appetite or demand for intoxicants is formed by the habitual use of alcoholic beverages."

Mr. Wilkins says he was early taught to believe that inebriety was a physical disease, transmitted from father to son, but thirteen years' experience at the Washingtonian Home has convinced him that just as long as inebriates "feel that they are not responsible for what they call their appetite for the narcotics, but believe that they have inherited it from their parents or grandparents, there is no hope of their success in a permanent reformation." He admits, however, that "children of drunken parents, reared in filthy, squalid, ignorant, and poverty-stricken homes, will be more easily led into all kinds of bad habits and crimes," but denies that "they will have a desire to use these intoxicants more than the desire to rush into all kinds of other vices and sins."

The preceding extracts convey but a faint idea of the contents of a comprehensive work which is worthy of careful study by scientific temperance reformers. The illustrations include a number of coloured anatomical engravings of the stomach and other organs, together with a "chart of soul life," which the author effectively uses to illustrate the potency of will-power influenced by a conscientious sense of right, in securing not only exemption from evil habits, but a harvest of well-doing. He insists strongly upon the importance of cultivating and strengthening the moral affections and the will, and believes that even the worst inebriates are not incapable, with Divine help, of following a course that will effectually enable them to conquer their relentless enemy.

INEBRIATE ASYLUMS IN NEW SOUTH WALES.

In September last there was published at Sydney the official report of an Intoxicating Drink Commission, which has excited some interest in the colony. Commenting upon the report, the *Sydney Morning Herald* (September 23), says:—

“Perhaps the most weighty portion of the valuable report of the Drink Inquiry Commission is that which proposes remedial measures for the treatment of drunkenness. The Commission has come to the conclusion, from the facts that have been brought under its notice, that most of the misery which afflicts the community may be traced directly or indirectly to over-indulgence in intoxicating liquors, and that three-fourths of the crime which makes work for the Courts of Justice is attributable to the same cause. The question is, how can we best grapple with this grave evil? If there were no intoxicating drink there would be no drunkards, and some people see in prohibition a simple and efficacious remedy. But to get rid of drink altogether is neither practicable nor desirable; what we have to consider is whether there is any effective way of checking its abuse, of restraining those who use it to excess. Under present conditions there is no check, no restraint. We punish the drunkard by fine and imprisonment, but the punishment has no effect; if the offender is sent to gaol he is sober by compulsion for a few days or a few weeks, but as soon as he regains his liberty he returns to his old habits. There are many drunkards, however, who never come before the Courts at all. In some cases their besetting vice leads them to commit a serious crime, or brings them, it may be, under the notice of the divorce tribunals; but there are numberless instances in which lives are ruined, the happiness of families destroyed, and incalculable misery caused without the public being any the wiser.

“How to deal with this deplorable state of things is a problem which

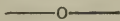
has engaged the anxious attention of many minds, but no one has yet solved it. The Drink Commission offer a solution. Their proposal, which is given in full in another part of the paper, is to treat the habitual drunkard, not as a criminal, but as one who suffers from temporary derangement of mind, and to place him in restraint, with the view of curing him of his vicious propensity. There are two classes of cases to be dealt with: the habitual drunkards whose excesses bring them into the hands of the police, and the habitual drunkards whose unfortunate habits are known only to their family and friends. The remedial treatment would be the same in both cases, but the manner of bringing the two classes of subjects under restraint would be different. It is proposed that persons convicted in the police-courts of habitual intoxication should be sent, by order of the magistrates, to asylums or reformatories specially designed for the treatment of inebriates for periods varying from three months to two years; and that habitual drunkards who do not get into the hands of the police should be committed to inebriate asylums on the application of their friends in a manner similar to that which now obtains in the case of lunatics. It is pointed out that at least two kinds of asylum will be necessary if the system recommended is to be carried out—one for those inebriates who go into confinement voluntarily, or are placed in confinement by their friends, and would be in a position to pay for their own maintenance, and the other for inebriates who are placed in confinement by order of the magistrates. For the latter class, amongst whom would be some who had been found guilty of crimes, a mixed penitentiary and inebriate asylum is proposed.

“These suggestions are entitled to earnest consideration. If carried out they would involve a very large expenditure, and they would interfere

to a considerable extent with the liberty of the subject. But the evil which it is desired to cure is one of such magnitude, and its removal by ordinary methods seems so hopeless, that proposals which promise good results must not be neglected because their realisation would cost money, and render necessary legislation of an unusual kind. With regard to the question of cost, it should not be allowed to weigh for a moment. As the Commissioners point out, the State derives, directly and indirectly, more than a million sterling from the consumption of alcohol, and it may well, therefore, be called upon to give something towards diminishing the evil effects which arise from the traffic. But if the adoption of a system such as that proposed produced the results expected from it, the outlay required to carry it into effect would be more than repaid. If three-fourths of our criminals are created by drink, it follows that a large proportion of our gaol expenditure is incurred because of the drunkard. If the reformatory plan met with fair success, it would cause a direct saving in the expenditure upon our penal establishments, and the gain it would bring to the community in converting useless, dissolute persons, into wealth producers would be beyond calculation. Apart from this, there is the social and moral welfare of the people, which comes before every other consideration.

"If it is considered that the proposal offers a fair prospect of success, the question of cost should not be allowed

to stand in the way. The objection, if there be one, lies in another direction. No harm could possibly be done by sending to an inebriate asylum for three months or two years an habitual drunkard whose condition was attested by frequent convictions in the police-courts; but in the other class of cases the system contemplated might lead to grave abuses, unless it was surrounded by very carefully-devised safeguards. Instances in which designing persons are anxious to get rid of their relatives are not unknown in private life, and the provisions of an Inebriate Act might possibly play into the hands of people of that sort. It would scarcely be safe to place it in the power of relatives or friends to have a man or woman removed to an inebriate asylum on a medical certificate merely. Objections of this sort might be met, perhaps, by providing that no action should be taken without full inquiry in open court; but the question is not free from difficulty. We come back, however, to this consideration—that society is overpowered with an evil which threatens its very existence, and that a proposal is made which promises to remove that evil. We feel satisfied that if any effective step is taken it must be in the direction indicated by the Commission. We trust, therefore, that the recommendations which have been made will be carefully studied by the Government, and by all who take an interest in the well-being of the community."



M. LUY'S AND HYPNOTISM.

THE Academy of Medicine at Paris is not only a learned society. It serves also as a consulting body to the Government in matters of public health, and hence the utterances which receive its sanction may be taken to represent the official science of the day. Hitherto its members have been sober—at any rate in the precincts of

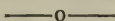
the Academy—in their expression of opinion concerning hypnotism; and if communications have been made from time to time on this subject, they have mostly been characterised by mere triviality, the more irrational statements in the so-called "psychical" science having been reserved for the other societies. M. Luys, how-

ever, is ambitious of official recognition for the vagaries of hypnotism; and he has had the happy idea of entertaining the Academy with his researches about the "*Solicitation expérimentale des phénomènes émotifs chez les sujets en état d'hypnotisme.*" It is regrettable that the "facts" stated at the last meeting should have been brought forward by one who has hitherto enjoyed the reputation of a *savant* on cerebral physiology, and whose work on the brain is a standard text-book; but M. Luys will have done a service in forcing the Academy to an expression of opinion concerning the practices carried on in many of the Paris hospitals, where hypnotism, daily misapplied under a therapeutic pretext, has nearly constantly one only effect—that of destroying the mental and moral equilibrium of those previously sound in this respect, and of inducing many patients into the gravest degradation of hysteria. M. Luys' communication relates to the action of certain medicines upon hypnotised subjects by radiation from the inside of hermetically sealed glass tubes. This interesting discovery, which dates, at any rate, from Hahnemann, was rediscovered by MM. Bourru and Burot, and related by them at the Congress of Grenoble, and they have since written a book on the subject. M. Luys has repeated and extended their experiments, with eighty-six different substances and finds that the effects produced upon the hypnotised organism by the action of the stimulating agents are of two orders. In one the subject is silent, and reacts as an automaton; morphine, strychnine, valerian, and sparteine produce phenomena of the kind. In the other the subject enters into the phase of lucid somnambulism, hears and enters into communication with the outside world. This is effected by Indian hemp, coffee, alcohol, and various odorous substances. In the first series of experiments the subjects are placed in a state of lethargy. The sealed tube containing the medicine is put at the nape of the neck, and in a short time the face expresses a state of feeling—generally that of displeasure.

In those who enjoy a dual personality (*sujets dedoublés*) the same substance will provoke an expression of suffering or malaise when applied to the right side of the brain, and a state of joy and expansion when placed on the left. Essence of thyme causes the submaxillary and thyroid regions to swell, the face to become turgescient, and the eyes to protrude. It must be noted that all this is recorded photographically. Morphia placed on the left side of the nape of the neck gives rise immediately to a feeling of terror. If the application is continued, the subject, actuated by the "instinct of protection," expresses the greatest anger. Upon changing sides and placing the tube behind the right ear, this subsides, and the face becomes calm and placid. Strychnia produces convulsions when applied on the left side; on the right, a state of gaiety and "jubilation." To quote a last example: Valerian gives rise to emotions having a character of great sadness. "The subject," says M. Luys, "is under the influence of an irresistible impulse to scrape the earth. He kneels down to do so, and the idea comes to him that he is in a cemetery. He performs the exhumation of a beloved friend, placing aside the soil with his hands and piously gathering together the remains. He makes a little mound upon which he places a cross, and goes through the funereal ceremony with groans, genuflexions, crossings, and kissings of the earth!" Not only is the preceding statement profoundly ridiculous, coming from a physician versed in mental science, but it is also opposed to what was obtained with the same agent by MM. Bourru and Burot. Valerian was found by these observers to cause "violent excitement," and to give rise to the same emotions as in a cat. The subject runs about sniffing, scratches a hole, and places his face in it. If these were isolated experiments, having been only preceded by those already mentioned—as the perpetual secretary of the Academy, in expressing his astonishment at M. Luys' communication, seemed to believe—it would be scarcely worth while to dis-

cuss their explanation; but, according to M. de Rochas, who has published a recent work on "Non-defined Forces," similar results have been obtained in the wards of M. Brouardel, the present dean of the Faculty; of M. Charcot, and of M. Dumontpallier. In the wards of M. Dumontpallier, "opium (applied in tubes) has induced sleep in a hystero-epileptic. In M. Charcot's service a woman submitted to alcohol presented an irresistible sleepiness, staggering, heaviness of the head, moderate and agreeable intoxication, and vomiting—symptoms which were arrested by ammonia. In a patient (!) in the service of M. Brouardel the action of alcohol was chiefly exerted on the legs. Valerian caused heaviness of the head, somnolency, and a kind of drunkenness." There can be no doubt that these experiments have been performed with the results published; and, if the experimenters think that the application of their tubes and the symptoms which follow have a relation of cause and effect, they are, of course, entitled to that belief. But in my opinion the experiments are carried on in the very

worst possible conditions for a scientific test, and in many cases the observers seem not only to ignore the psychology of hysteria, but also to be unacquainted with the most elementary principles of hypnotism. I have seen the operator guilelessly whisper to a visitor that such and such an effect would be produced, apparently unaware of the fact that in the hypnotic condition there is a state of hyperacousia, which makes the faintest sound audible. When the subject does not actually hear what is the name of the medicine under experiment, she is almost sure to have to go through her performance in a certain order. The experimenter generally shows the phenomena *crescendo*, from the less to the more astounding, and should there be any change in this respect to the trained subject the expression of the face and the inflection of the voice are very sufficient guides. There is also such a thing as auto-suggestion, and, from what I have seen, it is very often the would-be suggester who comes away from the séance with a delusion.—*Paris Correspondence of the "Lancet," September 10.*



AN APPEAL TO AMERICAN PHYSICIANS.

THE Temperance Committee of the Philadelphia Yearly Meeting of the Society of Friends has issued the following timely address to physicians, bearing the signatures of President Edward H. Magill, of Swarthmore College, as chairman, and Henry T. Child, M.D., as clerk of the committee:—

"AN ADDRESS TO THE MEDICAL FACULTY ON THE USE OF ALCOHOL IN THE PRACTICE OF MEDICINE.

"Deeply sensible of the vast responsibility which rests upon the members of the medical profession in regard to the enormous evils of intemperance resulting from the use of intoxicating beverages, we address you, and wish to call your attention to the facts in relation to this subject.

"You are not only the chosen guar-

dians of the health of the community, but your position is eminently that of teachers—the very name doctor signifies teacher. All classes of the community look to you for advice, and are very much influenced by that which you give them. How often do we hear the saying, 'Our doctor says' this is right, or that is wrong? Especially is this true in the case of young mothers, and your influence over these, either for good or evil, will be felt for more than one generation, the use of stimulants and narcotics during this important period often stamping an inherent taste for alcohol in the child, as well as causing the mother to adopt their habitual use. It is well known that during the last thirty years our knowledge of the properties of alcohol, and those compounds in which it

is found and used, has been greatly extended. The fact that fermented liquors, cyder, malt liquors, and wines, contain more or less alcohol was scarcely recognised, but we now know that these drinks are all of them capable of producing intoxication. That they interfere very seriously with digestion and nutrition, and especially with the removal of effete matters from the system, is now a well-established fact. The alcohol is the same in these as in distilled liquors, differing only in quantity.

"The question whether alcohol is a food or a generator of heat has been carefully examined, and the evidence seems to be clear that it is neither. Many eminent physicians have arrived at the conclusion that it is simply an irritant narcotic poison; that it enters the human system, either by absorption or inhalation, as alcohol; that it remains in the blood-vessels and tissues for a time as alcohol, and that it passes out of the body through the various emunctories without change.

"Those who believe in the necessity of the use of alcohol as a medicine must be aware that the various liquors in which it is found are not at all reliable, either as to the quantity of alcohol they contain or the other ingredients with which they are adulterated under the name of 'compounds.' The fact that almost all wines and liquors now sold are adulterated is well established.

"We would refer the reader to the chapter on 'Adulterations,' in Gustafson's 'Foundation of Death,' pp. 46 to 56.

"Dr. Benjamin W. Richardson, of London, England, an eminent scientist and physician, was convinced in his earlier investigations that it was uncertain and unsafe to prescribe any of the wines or liquors in common use. He therefore prescribed pure alcohol, diluted with water, so that he knew that he had a fixed amount of the former without any of the impurities which were contained in the liquors.

"Every conscientious physician is careful to have the remedies used as pure as possible, and no one will advocate the use of alcohol by persons

in health, and it is an important question for the medical practitioner to settle as to how far it may be advantageous to use it as a medicine.

"We respectfully ask you to examine this carefully and without prejudice. We refer you to the statistics and reports of the London Temperance Hospital, which was established in 1864. (See pages 208 to 215.) Gustafson: 'The reports are invariably satisfactory.' 'The treatment is altogether without alcohol in any form.' 'As a matter of fact alcohol has only been used in one or two experimental cases within ten years, and in these without beneficial results.'

"We trust that the loose and indiscriminate practice of recommending persons to procure for themselves any kinds of liquors as medicines will no longer prevail, as it is almost certain to lead to the evils of intoxication which no class of the community have so full an opportunity of witnessing as the members of the medical profession, whose intimate relations with their patients and their families compel them to witness these evils in all their stages, and who are thereby enabled to wield a powerful influence for good, if by their precept and example they are faithful to their highest convictions of right.

"Another fruitful source of intemperance, for which the medical profession is not altogether responsible, is the use of patent or 'proprietary' medicines, almost all of which contain alcohol, and hence are calculated to create an appetite or thirst for intoxicants. We ask you to use your influence against these.

"The use of alcohol in the 'official' preparations is a subject worthy of very serious consideration. We would recommend great care and caution in the continued use of these, especially after the patient has passed from under the immediate care of the physician, as it is very likely to establish the habit of drinking. The great number of fluid-extracts of valuable medicines furnishes a means of avoiding these if a little care is taken in their use. It is to be hoped that we shall be able to dispense with the use of alcohol in

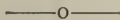
medicines by the substitution of harmless vehicles for the remedies required.

"In conclusion, we ask your sincere and unbiassed consideration of the suggestions we have presented, our

object being to promote the dignity and usefulness of your noble profession, and the good of all mankind.

"EDWARD H. MAGILL, *Chairman*.

"HENRY T. CHILD, *Clerk*."



THE NEW AUSTRIAN INEBRIETY BILL.

By CHEV. M. PROSKOWETZ DE PROSKOW MARSTORFF, *President Austrian Inebriety Society*.

THE following bill has been lately introduced into the Austrian Empire's Parliament, and will reach a second reading in the present session. This bill will be valuable for all Austria, excluding Hungary.*

1. The traffic of spirits in closed vessels in a quantity above five litres (one imperial gallon = 4·5 litre) is subject to a license for shopkeepers. This license, not valuable for the widow and the minor children of the license-holder connecting retail of liquors with another traffic extincts with the acquirer. The license for exclusive gin-shops and liquor stalls does not influence the quantity of spirits held up for sale.

2. The locality used for gin-shops and liquor-stalls must not serve to any other traffic or retail. Inns, coffee-rooms, confectioners, are not touched by the bill.

3. The number of licenses for gin-shops and liquor-stalls is fixed. One license alone is given in commonalties with less than 500 inhabitants for a gin-shop. Larger commonalties may have one license of this kind for every 500 inhabitants only. One license for a retailing liquor-stall is given for every 1,000 inhabitants.

4. Such gin-shops and retailing liquor-stalls to be shut up on any day preceding Sunday or holiday at 5 p.m., and not to be re-opened till 5 a.m. on the day following Sunday or holiday.

As we have many holidays in Aus-

* We distinguish—1. Retailing of liquors with another traffic-shop. 2. Special gin-shops. 3. Retailing liquor-stalls. 4. To be still restrained.

tria, the law would prove insufficient, fixing only gin-shops and liquor-stalls to be kept shut up from Saturday 5 p.m. to Monday 5 a.m.; it has been necessary to make the law equally valuable for Sundays and holidays.

Omitting this—that is to say, whoever holds his house opened, or furnishes liquors during the above said time—is punished with imprisonment for one month or fined up to 50 fls. (£1 = 12 fls. 71 kr. Austrian money).

5. Whoever is found evidently drunk in any house where spirits are sold or retailed, in the streets or another public place, is punished up to one month, or fined up to 50 francs. The same penalty for the person who makes another drunk on purpose in such places. The same penalty for inn-keepers, gin-shop or liquor-stall keepers, shopkeepers connecting retailing spirits with another traffic, the more for the tenants, commissioners, and substitutes of the aforesaid, if liquors are delivered to a drunken customer, or to minors, when the minors are not accompanied by full-grown people.*

6. Claims from drinking-bouts of any kind, or from retailing spirits under five litres, are not actionable if the debtor owed such in the moment of entering the new score, or if the claim was ceded meantime.

7. Mortgages and bonds are valueless in such case.

8. Sham transactions punished by prison (one week up to two months) or fined (up to 200 fls.).

* It would be desirable to say minors altogether.

9. The district police is authorised to interdict a person punished or fined thrice a year for inebriety from inns or liquor-stalls or gin-shops in his domicile or around it for a spell up to one year. Penalty—prison up to one month, or a fine up to 50 fls.

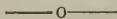
10. Tavernmen, keepers of gin-shops, liquor-stalls, or shops in connection with spirits retailing, and the substitutes or tenants of such, renewedly punished for the above said transgressions to lose their license for some time, or for ever.

11. The law's text to be posted in all taverns or liquor-stalls and gin-shops, in the country's language, on visible and accessible places, and to

be kept legible, if the Government orders it (ought to be obligatory in general).

It is certainly a great progress for checking inebriety to see this bill passed, though we should very much like to have it amended in some parts.

We miss an Habitual Drunkards Act; the obligatory purification of all spirit used for consumption; the foundation of retreats and homes for habitual drunkards by public means; the prohibition of making liquors by cold or warm distilling by the liquor-stall or gin-shop keepers themselves in a private way. The spirits tax will be raised by the Parliament in this session, and we hope the best of it.



ALCOHOL AND THE PULSE OF FEVER.

By Dr. B. W. RICHARDSON, F.R.S.

DR. ROBERT SINCLAIR, of Belfast, writes to ask me if any observations have been made and published upon the effect of alcohol on the heart's action in pneumonia. The effect of alcohol on the heart, in natural and in enfeebled conditions, being to accelerate the motion of the heart, he would like to know if this effect of acceleration is observable in febrile states, when the heart is already beating as fast as is evidently compatible with existence? In simple statement of the problem—If the heart is already beating 112 or 120 beats a minute, with a temperature of from 102 deg. F. to 104 deg., will the administration of alcohol, in such acute conditions, increase the number of beats?

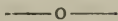
From my own knowledge and observation I am unable to answer this question directly, for the simple reason that during the years I have had the study of the action of alcohol specially before me, I have never seen it necessary to prescribe alcohol under the conditions named. On the contrary, I have avoided such administration, and have reason to be so profoundly satisfied with the result that it would require an unusual testimony

to bring me back to a practice which I have all but forgotten. Moreover, at the same time, I cannot find any series of observations in which the immediate action of alcohol on the febrile pulse has been systematically noted from dose to dose and from hour to hour in a manner so exact as to carry with it a reliable clinical lesson. As a rule, the administration of the alcohol is through a medium called wine, or whisky, or brandy; but how much alcohol is introduced into the system by this rude and rule-of-thumb method it is quite impossible to say. I have known an impure stuff called "British brandy," which yielded smoke when it was burned, used in a case of typhoid; but I never have known the elementary question of the percentage of alcohol in any alcoholic drink made matter of proof before administration. On the question, therefore, of the effects of pure alcohol itself in the treatment of fever, we are still at sea.

On physiological grounds we are, however, able to approach the truth. In animals of what we may call the febrile type—pigeons, for example—in which animals the beats of the heart number from 115 to 120 per

minute, and the temperature is 108 deg. F., the action of alcohol is very decisive. In these animals I found that the beats of the heart were for a short period quickened by alcohol up to even 150 per minute, and with that increased motion there was a slight elevation of temperature—three parts of a degree Fahrenheit. These changes were very quickly followed by a reduction of temperature, with a succeeding reduction in the beats of the heart. Thus I have seen the temperature of the pigeon reduced 78° F., and the heart beats brought down to 70 in the minute. I should infer that during states of high fever in the human subject there would be, after a short rise of fever and pulse, a similar fall of temperature and a reduction in

the number of pulsations; but in order to induce such variation, the alcohol must be administered in large quantities, so as to induce what in health would be the third degree of intoxication. In fever, used so freely, alcohol would not intoxicate as it would in health; it would be physiologically used in overcoming the arterial resistance, and would, in point of fact, act after the manner of cold. This, I think, accounts for the large quantities of alcohol which are sometimes tolerated in cases of typhoid—a clinical fact to which my excellent friend, Mr. Square, of Plymouth, has drawn my attention, and which is of great importance. — *Asclepiad*, 4th Quarter, 1887.



CHRONIC VALVULAR DISEASE OF THE HEART.

By CHARLES R. FRANCIS, M.B.

REFERRING to the causes of chronic valvular disease of the heart, tabulated by Sir A. Clark, I may mention one that came under my observation in India, wherein unconsciousness of the existence of any heart affection on the part of the individual—a young man in excellent health, and much given to active exercise—was followed when he was told of it (he had consulted the surgeon of his station about an attack of “indigestion”) by extreme dejection and visible wasting. He had contemplated emigration, assuring his life, and matrimony. There was a mitral murmur, with a strong and very conspicuous impulse; without irregularity or weakness of the pulse. To encourage the conservative process of hypertrophy is, *ceteris paribus*, in all cases of heart embarrassment, obviously one of our first duties. An officer of twenty-two, attacked five years previously with rheumatic fever, followed by adherent pericardium, has lived, by following the rules required to promote this condition, to be sixty-three, and he is now well. When yielding in the past to “mess” temptations, and indulging

too freely in alcoholic beverages, he in various ways, from time to time, lost ground, and has been treated according to the symptoms of the moment—now for “kidney,” now for “stomach,” and again for “liver;” the derangements proceeding, essentially, from an embarrassed heart. With them there would be associated increased palpitation, which eventually subsided with the necessary amount of hypertrophy. A weakly lady of fifty, with an aortic murmur and anasarca of the lower limbs, lived (after losing, many years previously, all bad symptoms) to be 103. A middle-aged officer of convivial habits, with a mitral murmur, fell down dead when crossing a room. Another, a free spirit drinker (whose heart was in a similar condition), rose from his sofa, feeling “queer,” staggered to the table, fell forwards across it, and expired. I have known European and Eurasian loafers in Calcutta—men much addicted to rum—to die suddenly in hospital after but slight exertion. In these fatal cases the ventricles have been much thinned, and the cavities consequently dilated. Where this condition exists (and there

is, I believe, no more powerful factor in producing it than alcohol) sudden death may at any time—especially after sudden exertion or strain upon the damaged organ—be expected. The heart fails in propelling power, as in cases of fatty degeneration, where death may ensue (as I have seen) during the cold stage of an attack of intermittent fever. Even in such cases, if the rules for promoting hypertrophy be followed—alcohol

being religiously eschewed—comparative health may, under favourable circumstances, be restored, and life be prolonged. The necessary rules may be epitomised thus:—(1) rational living, (2) drinking but little, (3) avoiding alcohol, which causes muscular debility, and promotes fatty degeneration altogether. Of medicines, strophanthus promises to be the most suitable.—*British Medical Journal*.

Notes and Extracts.

MILK AND ALCOHOL.—The *Hospital* is doing good service to the cause of Temperance by its statistics on this subject. Recently there was given in its pages an account of the milk and the alcohol consumption in nine general and thirteen special metropolitan hospitals for 1875 and 1885. We are glad to see that the bill for alcohol diminishes in most hospitals, whereas the milk bill grows larger; at the same time, when we take the total amounts spent on alcohol and on milk, we are sorry to say that the statistics are discouraging. Surely alcohol can no longer be regarded by scientific medical men as an article of diet, yet it seems to be very largely administered in our best hospitals. When we consider how many hospital patients owe their hospital experience to alcohol, we cannot but consider it a grave evil that they should receive so many “hairs of the dog that bit them.” — *Irish Temperance League Journal*.

DRINKING AND UNTRUTHFULNESS.—In the current number of the *Asclepiad* (Longman & Co.), Dr. Richardson gives the following illustration of the influence of heredity and environment:—“There shall be a person born of the most correct parentage in respect to the virtue of truthfulness. That person shall grow up in the perfected practice of the virtue of truth,

so that his or her word shall be a pass-word of integrity, and honour, and right. But by environment that person shall come under the fatal influence of one common everyday agent, alcoholic drink, and as the agent changes its victim and masters its victim, the first symptoms of the victory of evil, in what is called dipsomania, shall of a certainty be the loss of the once pre-eminent virtue. Of the many victims of intemperance whom it has been my misfortune to meet, not one has escaped this moral abasement, departure from truth—the vice of falsehood. It is a part of the moral disease, as distinct and as clear as any part of the physical disease—unsteady gait, restless impatience, or palsied speech—which springs from alcohol. It is as if the spirit of untruth had entered the body like a physical poison, had corrupted the mind, and made it a veritable centre of sin.”

ALCOHOL AS A WEAPON OF PRECISION.—The whole subject of the action of alcohol in fever is one which ought to be examined by us physicians without any reference to the question of total abstinence. Alcohol in these inquiries is a therapeutical agent, a drug, and should be tested as such by abstainers from it as a beverage as well as by non-abstainers. But in the testing, the drug must be used with absolute precision, or no common truth

can be arrived at. The drug must be pure, the quantity exact, the periods of administration definite; while the results, immediate and remote, must be recorded with the most scrupulous attention to details. That done, I am quite prepared to hear that alcohol reduces fever, reduces oxidation and waste of tissues, and, without shortening the course of the disease, acts, tentatively, as a remedy. At the same time, even this proof would not affect me individually towards the employment of alcohol in preference to other remedies which, in my knowledge, are less seductive, less mischievous in the end, and equally or even more effective; because, contrasting the results of treatment of fevers with and without alcohol, there is nothing I know of in medicine that is more satisfactory than the treatment of the febrile condition without an alcohol of any kind.—*Dr. Richardson in the "Asclepiad," Fourth Quarter, 1887.*

ALCOHOL IN CLIMATIC AREAS.—The opinion which often finds great favour, that the use of alcoholic fluids is a matter of climate, is not confirmed by a recent report which deals very fully with the total abstinence movement both in the United Kingdom and in the United States of America, and is entitled *Vergleichende Darstellung der Gesetze und Erfahrungen einiger ausländischer Staaten*. It is seen from the report in question that Canada, a very cold climate, has a consumption per head per annum of only 3·28 litres (a litre is 1 pint 15 ounces); Finland, 3·30; and Norway, 3·90; whilst the United States consume per head, 4·79 litres of spirits and 31·30 of beer; and the United Kingdom, 5·37 litres of spirits and 14·3 of beer; Austro-Hungary consumes 5·75 spirits and 22·40 wine; Russia, about 16 spirits and 4·5 beer; Sweden, 8·14 spirits and 11 beer; Prussia, 8·60 spirits and 65 beer; Bavaria, 4·31 spirits and 262 beer. Then follows Belgium, with free trade in alcoholic drinks, and consequently with 9·20 litres of spirits per head and 169 litres of beer; Holland, with 9·87 spirits

and 27 beer; and last, but not least, Denmark, with 18 litres of spirits and 33 of beer per head; France, 7·28 litres of spirits per head, 119·20 of wine, and 21·10 of beer. It is seen that Canada, Finland, and Norway, all cold countries, are nearly abstinent when compared with Belgium, France, Holland, or Denmark — *British Medical Journal*, December 17.

ALCOHOL AND FURFUROL.—At a recent meeting of the Paris Academy of Medicine, M. Bacchi read a note in which he stated that all alcohols employed for the manufacture of spirituous liquors contained furfural in various quantities, and consequently are more or less injurious. Furfural ($C_5H_4O_2$) is found in the alcohol produced from grain, such as oats, rye, and barley. It is obtained by the action of sulphuric acid on oatmeal or on bran, or, better still, by the action of sulphuric acid on a mixture of sugar and starch, with binocide of manganese. It is a colourless, highly-refractive oil, becoming rapidly brown under the influence of the air, and it possesses an odour resembling that of the oil of cinnamon and that of bitter almonds. When it is administered to animals in the dose of a few cubic centimetres, its toxicity immediately becomes evident; one observes almost instantaneously tetanic symptoms and genuine attacks of epilepsy, whilst the respiratory movements become slackened and are soon completely arrested. These experiments throw a light on the pathogeny of alcoholism. In Ireland and in Scotland one frequently observes in acute alcoholism attacks of epilepsy; whereas in France these accidents are noticed only in drinkers of "absinthe," "bitters" (a liqueur), and "vermouth." Liqueurs and bouquets were formerly the product of the distillation of the alcohols of wine, holding in solution aromatic substances, whereas now manufacturers simply add essences and sugar to alcohol more or less rectified. The liqueur termed "absinthe," which frequently contains salicylate of methyl, produces, besides ebriety, with loss of sensation and of motion, veritable attacks of epilepsy.

British Medical Temperance Association.

President.

DR. B. W. RICHARDSON, F.R.S.

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Enfield, December, 1887.

THE
MEDICAL TEMPERANCE JOURNAL.

April, 1888.

Original Contributions.

DR. NORMAN KERR'S NEW WORK ON INEBRIETY.*

WHAT is inebriety? We must go to Dr. Norman Kerr for a complete answer to the question, and we get it, too, in the volume just issued from the Gower Street Press. The book is a marvellous evidence of industry, observation, and talent. It consists of some 400 small octavo pages of matter, and covers the whole field from first causes to the final cure or "the bitter end," which ever happens to be the path taken by the victim of "the habit," "the vice," or "the disease."

The whole subject is divided into twenty-three chapters, in which it is viewed in every possible phase, and treated by the writer in the most artistic, scientific, therapeutic, pathological, and medico-legal manner which it is possible to bestow upon it. We are far from meaning that we agree with everything advanced by Dr. Norman Kerr; we could scarcely be expected to know so much as he evidently does. We had thought, with the late Mr. Morley, that it would be the better course to lock up the drink, so as to stop the production of the manufactured article. But we recognise, by the aid of Dr. Norman Kerr's work, that there is something else to be done, and we are thankful for the enlightenment. Still, Dr. Kerr is not quite prepared to go so far as to assert that all inebriates are diseased; some may retain their own power to resist its onset, and he thinks, as we do, that the whole element of free will is not always lost. However, we will discuss these questions as we rapidly peep through the pages of the book, and glance at the subject as described by himself.

Dr. Kerr insists upon the frequency of its manifestation

* INEBRIETY: *its Etiology, Pathology, Treatment, and Jurisprudence.* By Norman Kerr, M.D., F.L.S. London: H. K. Lewis, 126, Gower Street, W.C.

as a disease in every-day life, and asserts that whilst some general practitioners in medicine may never see a case of hydrophobia or cholera, there are probably none who have not frequently met with inebriety "in its most piteous and intractable forms." He insists upon the importance of early recognition, as in that act depends the possibility of its cure. He thinks that it is not usually recognised as a disease until the diseased state is thoroughly established. It is but too often thought to be the result of an "evil and perverse disposition," and that the patient is under the influence of the "tricksy spirit," rather than that it is "the condition" which leads to the demand for the liquor. He proves that, at any rate in advanced cases, there can be no mistake about its nature. The pathological appearances prove it most conclusively after death, and their significance can be made out with unerring certainty during life. The symptoms in a majority of cases show the nature of the disease which has been set up. He insists upon the fact that the drink and the pathological conditions are actual partners. Dr. Kerr, however, guards himself from misunderstanding in stating that all drunkards are not necessarily diseased. Some drink for the gratification of their love for pleasurable excitement. He defines inebriety "as an overpowering impulse to indulge in intoxication at all risks." It might seem that if this definition was correct in its foundation, there was no room for the temperance reformer by voluntary association in such cases. He guards himself from this accusation, however, by expressing a belief that vice and sin may be the handmaids, by the aid of which the disease is introduced. We assume that Dr. Kerr means by this that the boundary line between the vice and the disease is not a clearly defined one, and in that we cordially agree.

It may be true that a man cannot resist the urge when the germ producing the rigor has been introduced; but if he knows that he can escape the rigor, if he does not go into an aguish district, he is either foolish or foolhardy to go there unless duty calls, and certainly no duty ought to force a man into drinking habits. Dr. Kerr ranges inebriety under five classes. The first class are those who have a defective control over themselves at the first onset. This class is allied to idiots. (2) Those who really have attacks of recurrent insanity in which the drunkenness springs from physical causes. We must differ here with Dr. Kerr if he means to limit this class. We think there are some of these cases who have not lost self-will until they have tasted a certain quantity of liquor, and they could escape from the siren if they would, but their will is not at all times equal to the struggle. (3) The inebriate criminals, who are always of a

low type, and who, we think, generally inherit their faculty or attribute. (4) Those who are actually poisoned by the drink.

We scarcely follow Dr. Kerr in this division, unless he means in this class to include those lost creatures who have been high-minded, fully educated, thoroughly intelligent individuals, who only poison themselves because they like the poison.

The 5th probably include some of the above, and takes in all who have hereditary tendencies causing them to bear badly the influence of narcotics.

Having established the fact of the disease, Dr. Kerr proceeds to show its alliance with insanity. He shows that their causes are similar, that the attack may be temporary or periodic, and he protests against the punishment of those who are the victims of the disease, as much as he would if they were truly insane. The mania of constant inebriety, and that of delirium tremens, are passed in review, the alliance being shown in the name, "*Mania à potu*." He points out that during its paroxysms all moral control is gone, and that no person can be responsible for his actions whilst in that state, and no one, not even the most obstinate lawyer, can doubt his insanity for the time being. There is also a form of general insanity often met with in our lunatic asylums which is clearly connected with the use of narcotics, and which cannot be separated from that form of alcoholic dementia which makes up a large part of the inmates of an old-established pauper lunatic asylum. Dr. Kerr points out the curious fact that in an ordinary lunatic asylum many inmates are thoroughly satisfied that all are mad except themselves; so, many drunkards suffer from the same delusion. They believe that everybody is drunk, while they alone are sober. We have often seen this in the police-court, in which the prisoner in the dock has expressed that belief.

There is also the analogy in heredity between the two diseases. Dr. Kerr points out that in a given family one is insane, a second hysterical, a third melancholic, a fourth asthmatic, a fifth, inebriate. In another family they are the offspring of an insane parent, and one child is an idiot, a second epileptic, a third insane at puberty, a fourth an inebriate, and a fifth neurotic. It is clearly proved that there is intercausation, the one establishing the other, and *vice versâ*, and the opinion of one of the physicians of Colney Hatch Asylum is quoted, that 40 per cent. of British insanity springs directly or indirectly from drink; we have proved this from the evidence afforded at other asylums.

From these analogies the course of treatment must be the same, and our author says, "Deal with the inebriate as you have so successfully dealt with the 'maniac,' condemn the sin, but stretch out a loving hand to the sinner;" and he urges

that it is as much the duty of the Christian, the philanthropist, and the State "to support homes for the treatment of inebriates, as they have acknowledged it to be their duty to sustain asylums for the cure of the insane."

Dr. Norman Kerr would replace the term "Inebriety" by that of "Narcomania," as being comprehensive in its alliance, and in accord with the definition of inebriety; it is a mania connected with inexpressibly intense, involuntary morbid crave for the temporary anæsthetic relief promised by every form of narcotics, including alcohol.

In Chapters 3 and 4 the forms of inebriety are discussed. He divides them into two groups. The periodical and the habitual, or constant. The periodical in females are especially associated with the functional periodicity which, as in some individuals of a highly nervous temperament, has been a prolific cause of the inebriate tendency. A number of cases are given to prove this point, typical cases which show the different directions which the disease may take.

Chapter 4 follows on with pictures of a similar kind, and having alliances with all kinds of other diseases, and the author shows that abstainers even may become inebriates almost involuntarily after injuries to the head. The author does not mean to assert that such conditions can arise without the intervention of alcohol. We fear that the abstainers so affected had been very free users of the liquor in their younger days, and that the latent mischief is brought out by the exhibition of stimulants by kindly-disposed but very injudicious friends, and we must not always believe that a man is an abstainer because he asserts it. So also with the inebriety of sun-stroke. It is often given as an excuse in the police dock that the defendant "had had a sun-stroke." If the truth could be known in all such cases, it would be found that the skin had lost its power to act, and that the kidneys had been already damaged by the free use of alcohol when the sunstroke came, if even the so-called stroke had not been actually induced by the alcoholic poison rather than by the heat of the sun. We are far from disagreeing with the learned author, except in degree; but we think it will scarcely do to push the excuse too far. We are inclined to think that the author, in the description of his cases, has taken too fully the truth of the statements made for granted. The kindness of his nature has not cared to doubt them in ways that those accustomed to look further are but too often obliged to do, especially when the incriminated person is in the police-court.

In Chapter 5 we have the forms of inebriety classified according to their causating agent. Alcohol, opium, chloral, chloroform, ether, chlorodyne, and other narcotizing agents, give characteristic

features to each case. Thus the first act of alcoholic intoxication is the exhilaration which follows upon vascular relaxations, as shown in the flushed face of the alcoholic diner out. There is vaso-motor paralysis, as the physiologist calls the roseate hue upon the countenance; it extends to all the vital organs as well as to the cheeks and eyes. The second act is a further extension of the paralysis. The reason, the will, the conscience, are all more enfeebled, so that the emotional and intellectual faculties are, as Dr. Kerr says, beyond the control of the judgment with exaggeration, or even extending to abolition of the faculty. In the latter case the third stage is reached; there is then only automatic existence.

There is a good description of the varieties of alcohol, and the symptoms by which they manifest their effects. It is shown that the symptoms vary in a most marked manner. These facts have been worked out by Dr. B. W. Richardson, and are given in detail by our author, who shows us in a kind of sliding-scale that the alcohols of wine are less poisonous than those of beet root; after these, those produced from corn, the most potent and dangerous being those obtained from potatoes, amylic alcohol being four times more fatal in its effects than the ethylic.

Dr. Kerr derides the idea that beer is a wholesome and sustaining food. He tells us that among the inebriates admitted into the Dalrymple Home, 9 per cent. of the whole number drank nothing but beer.

The influence of amylic alcohol being determined, we may reasonably conclude that its imbibition would be certain to lay the foundations of a great number of the diseases which beer drinkers suffer from, but which are scarcely ever by common people associated with the habit. It is true that the effects are minimised by dilution, but nevertheless the quantity consumed makes up for strength. Dr. Kerr sums up this part of his subject by stating in bold type that all alcohols are irritant, narcotic, and anæsthetic poisons, and that they are the demons of physical degradation. We are quite ready to endorse the author's view as to the effect of alcohol upon the moral ideas of its votaries regarding truth. Its most striking characteristic is the wilful perversion which the drinker indulges in without "winking;" untruthfulness is a marked characteristic. No one can listen to the defences set up by inebriates in the police-court, and supported by their legal advisers, without being saddened in consequence of this obliquity of conscience.

The Doctor next considers delirium tremens, and demolishes the idea that it is caused by the sudden stoppage of soakage with drink, but that it is a true poisoning by quantities taken before the stoppage occurs. Cases are given in detail, and the difference

pointed out in a most decisive manner, and its difference from other conditions clearly made out; its alliances are shown, and its sequences traced with a masterly hand. The insomnia with which brain-workers who disobey the laws of Nature are afflicted is also considered, and the dangers of night-caps and sleeping-potions dwelt upon. We seriously recommend this part of our author's work to those who are addicted to use or prescribe the dangerous agent.

Our author discusses the different forms of opium, chloroform, chloral, and chlorodyne inebriety in the fullest possible manner. The evidence he adduces leads us to ask whether the evils which have followed the introduction of these drugs have not been greater than the benefits. We detect a lurking liking for tobacco in the concluding pages of this part of the subject.

The etiology of the disease is considered in the eighth and succeeding chapter. The subject is divided into seventeen different heads, such as age, sex, religion, race, climate, &c. We must refer our readers to the work itself for the particulars; they will find an immense amount of information in an easy readable form; much of it is derived from the evidence afforded by the inebriate homes in America, which Dr. Kerr has visited, and those which have been established in this country since the passing of the Habitual Drunkards Act.

The exciting causes are divided into twelve heads, and are considered in the tenth chapter. They are nerve-shock, injuries, diseases, occupation, climate, want of occupation, and the *per contra*—overwork, &c. The alliance with each is shown, and examples given which support the views of the writer. These cases may be studied by the medical practitioner with interest. There are few men in extensive practice who will not recognise their truthfulness, and who will not be able to corroborate the observation of the author as to minuteness of detail; thus, good fortune and bad fortune, religion and irreligion, unrequited love and sexual excesses: each brings its quota of victims, incontestibly proving a deeper seat than that derived from present excesses. The influence of occupation is made very manifest. Dr. Kerr deals with the subject of climate in an interesting fashion, though he has failed to show how this influence promotes opium-eating in the fen districts of the country. The consumption of crude opium and laudanum in those districts used to be much greater forty years ago than it is now, the drainage of the marshes of Lincolnshire and Cambridge having been followed by the unexpected in a reduction of the consumption of opium in those districts.

The pathology of the disease is considered in detail in Chapter 12, commencing with the paroxysm. The writer deals with

the difficulty and the importance of the study. He considers that there is a functional disturbance, but he does not make it quite clear as to which is the antecedent, that or the structural change. We should think that the functional disturbance must precede the structural change, and that the first is set up by the habit. The habit may become equal to a faculty, and may be transmitted, just as the faculty of the liking for music or gymnastics; the transmitted inheritance gives the liking, this then sets up the functional disturbance, and the latter leads to structural degradation of tissue.

Dr. Kerr discusses these questions in all their bearings, and fits them in with every phase of the disease which is to be met with. The changes are as numerous as those seen in the kaleidoscope, for no two are precisely alike. The neurotic cases, those with a pre-melancholic depression, as well as those with a previous physical exaltation, are reviewed in order, and their alliance with all manner of pathological perversions clearly brought out, so that a new light is thrown upon those cases of craves which one meets with now and then in the hysterical patient. There is what Dr. Kerr describes as a "*pathological unrest*." After the paroxysm he describes the pathology of the diathesis. He takes up the reason why many drinkers do not become inebriates, and here he travels over some of the same ground again, but only to enforce further arguments to prove that there is an interference with the controlling power of the nervous centres, which may be inherited or acquired.

The author shows that the very first effect of alcohol in either kind is to reduce control; that a man under its influence is not so much his own master as the man who does not touch it; that the vigilance of the vaso-motor nerves is relaxed and their power reduced, and that it has a special and injurious effect upon brain cell. The way in which this is effected is dwelt upon, and it is shown to be a powerful will paralyser. He concludes this part of his subject with a minute account of the post-mortem appearances in the victim of the disease.

The next five chapters are occupied in a consideration of the treatment. The various kinds of cures are passed in review, and dealt with according to their merits. We must refer to the particulars, which are most interesting reading. The search for a specific still goes on, but, as Dr. Kerr remarks, it is still unattainable except with the elixir of total abstinence. The only sound treatment is to be found in the complete withdrawal of the poison. Various prescriptions are given which are thought sometimes to assist in removing the more obstinate conditions; narcotics are to be avoided, though not prohibited in all cases.

It is shown that the selection of a dietary is very important.

Exciting causes are to be removed, and the physical damage, whatever it may be in each individual case, to be recognised and remedied as far as possible. Recreation, amusement, moral influences must be brought to bear upon the case. Occupation must be provided, and for beverage, plain, pure water is the best of all; abstinence must be unconditional, alcohol *never* prescribed even for medicinal or religious purposes. Chapter 17 is devoted to the consideration of change of country, and the Inebriate Homes come into review as well as the advantages and disadvantages of residence in the homes which are not licensed.

The conditions of the Habitual Drunkards Act of 1879 are carefully considered, and are set out in detail, so that any wishing to take advantage of the Act have only to provide themselves with this book to have all the information required at their fingers' end.

The defects are also dealt with, and the objections raised against its provisions demolished with no unsparing hand. The medico-legal aspects of the case are dealt with very fully. The book is one which should be in the hand of every sanitarian and every philanthropist, as well as with every medical man.

In concluding this review we have only one great fault to find with it. The writer appropriates very much work without acknowledgment. It is impossible, of course, to give annotation as to the source of every bit of information, but it would have been better to have indicated the origin to a much larger extent than is done. Perhaps Dr. Kerr will remove this objection in the next edition, which is sure to be called for in a short time.

There is one other point upon which we think a word may be said. Dr. Norman Kerr has not given sufficient prominence to the action of the British Medical Association in procuring the passage of the Habitual Drunkards Act. If it had not been for the determined action of that Association, legislation would not have been forthcoming when it was, and would still have to be effected. Those, therefore, who procured the alliance of the Social Science and the British Medical Associations in the matter, and by whom the funds were provided for the passing of the Bill, should not have been lightly passed over. Papers were read upon the subject by Dr. Peddie and Dr. Pemberton at the Edinburgh meeting of the British Medical Association. Resolutions based upon those papers were submitted to the annual meeting, and endorsed by the whole assembly. It required some pertinacity to get the funds which were necessary for the purpose of formulating the Bill. The subject was brought to the notice of the Social Science Association by a member of the Council of the British Medical, with Sir Lyon Playfair as Chairman. The impulse given to the movement by that paper was sufficient to

carry, against considerable opposition, the first grant of funds. This took place in 1876. Great objections were raised to the view entertained by the author of that paper that the habitual drunkard was the victim of disease. The idea was sneered at by the *Saturday Review*, and opposed by the lawyers generally, though some few were more enlightened, and it ultimately triumphed; but it could not have done so if it had not been piloted through the Council of the British Medical Association, and the influence of the Social Science Association brought to bear upon its progress. The British Medical Association provided the funds, the combined committees laid the foundation for the work which, with Dr. Cameron, was brought to a successful conclusion, and it is at this time that Dr. Norman Kerr brings his great intellect to bear upon it; but we ought not to lose sight of the pioneers who paved the way for success.



THE DIFFICULTY OF DIAGNOSIS BETWEEN DISEASE SYMPTOMS AND DRUG SYMPTOMS.*

By ALFRED CARPENTER, M.D., M.R.C.P.

THE difficulty in diagnosis between symptoms produced by disease and those produced by drugs is not always an easy task to settle even by experts. It is not always easy in the police cell to distinguish between a so-called "*dead drunk*" person and one who is labouring under the effects of compression of the brain, caused by rupture of a cerebral vessel, or from compression produced by fractured skull. But this is not so difficult as is the task which the physician has to contend with, when called in to advise with another practitioner who has been freely exhibiting active remedies before the second opinion is sought for, or when the patient has been physicking himself with ardent spirits or other narcotics.

Having met with these difficulties on several occasions I propose to consider one or two of them, and to detail to you some that I have met with in which the treatment, having been based upon imperfect information, was rapidly tending to poison the patient, and certainly would have done so if a change of treatment had not been made. The use of the thermometer, a careful examination of the heart sounds and the character of the heart's impulse, the condition of the respiratory function, the state

* A paper read to the British Medical Temperance Association, Tuesday, February 21, 1888.

of the skin, the action of light upon the pupil, and the smell of the expired air from the lungs, will always enable the skilful surgeon to be certain about the police case, unless there is drink and compression combined, not a rare state of things. It is always right to err on the safe side, and to give the patient the benefit of the doubt if there is any. Though it is very unlikely that severe mischief can be produced to the brain even if the man be drunk, without there being some evidence of its nature if it be looked for. However, it is not my intention to enter into the consideration of police cases, so much as to refer to some other conditions which the medical practitioner occasionally meets with in the sick room.

I propose to detail two typical cases for your consideration, just as I met with them, but, for manifest reasons, giving no public clue to their whereabouts.

The first was that of an eminent merchant with numerous family connections, sixty-five years of age, a *bon vivant*, well known as an hospitable host, as well as a genial guest. I am at his bedside in consultation with his ordinary medical attendant. He is semi-comatose. He has been so for twelve hours. His friends have been summoned from different parts of the country in the expectation of his death. There is general anasarca, some oppression of breathing, but a fair pulse, regular in its beat, 78 per minute, though there is an aortic murmur with first sound of heart, but not very loud. The patient is able to be roused if spoken to loudly, and then dimly understanding what was said to him, but lapsing at once into stupor: the eyes responded equally to light, and contracted to a point, equally dilating again on its removal; the conjunctivæ were turgid, the skin dry and felt hot, but the temperature, as taken in the mouth, showed one below normal, viz., 97·8°. The urine was very albuminous, and the bowels had been freely relieved, indeed there had been slight relaxation for some time previously to onset of his semi-coma. He had complained of feeling faint when the bowels acted; had for some days taken freely of stimulants, principally champagne and brandy, and since the previous day had swallowed about twenty-four ounces of the latter. He had passed at least three pints of water in the preceding twenty-four hours, and it was dribbling away slightly into the bed at the time of my visit. A catheter was introduced into the bladder and a portion drawn off which was seen to contain about $\frac{1}{4}$ alb. after boiling. The comatose condition did not appear to me to be caused by uræmia, as there had been no arrest of urinary secretion, but the contrary, and there had been also relaxed bowels. The faintness was not caused by any serious heart embarrassment, for that organ, though probably fatty, and with aortic valves imperfect in consequence, as I sup-

posed, of atheroma, was doing its duty. I came to the conclusion that the coma was rather the sequence of alcoholism than that of uræmic poisoning. I advised the cessation of the brandy treatment; which had really been pressed by the friends and nurses rather than the doctor, because it had been advised sometime previously by an eminent physician. I administered ammonia in its place, in minute quantities, with liq. potassæ, also in small doses. I urged the continuance of intestinal evacuations by means of assafoetida injections with small quantities of turpentine, and suggested a milk diet only. The following day the coma had lessened. It disappeared in forty-eight hours, and symptoms of gout manifested themselves a few days afterwards in the hands and elbows, whilst the respiratory difficulty diminished. The patient made a fair recovery in a few days from the imminent danger in which he was placed, and the anasarca lessened. He had however too much gout in kidney, and atheroma in aorta, to become convalescent; though he lived for four years after the time at which he was being rapidly poisoned by alcohol. The belief that the coma was due to the brandy, and not to the presence of uræmic poisoning, was thoroughly established by the result. Fortunately the kidneys did not immediately resent the intrusion of the stimulant, for they continued to act freely, though the water was albuminous as long as he continued under my observation; the general dropsy declined, the aortic insufficiency however was not improved, and he remained for a long time incapable of exertion, though he did recover so much as to be able to take his place at the dinner-table again, and ultimately fell a victim to the renewal of his social habits of life, and a return to the pleasures of the after-dinner wine.

In this case, as in some others which I have met with, the aortic insufficiency has seemed to me to be dangerously added to by the alcohol; and that in such cases, especially when there is gouty habit and albuminous urine, it seems to produce its comatose tendencies more rapidly than in other people, and in such cases all alcoholic stimulants should be rigorously withheld. This patient had been advised to take gin, by an eminent London physician, and for some weeks before the time at which I saw him had taken something like a pint a day, in place of the port and brandy to which he was addicted. He could, or would, not continue an abstaining course, for he preferred his port wine and obliviousness to discomfort and continuance in the flesh, though I am certain he would have lived some time longer if he had followed on the other tack, and even might have had a chance of recovery if he would have continued his abstinence, and have avoided those causes which tended to produce atheroma; for a kind of gluttony was indulged in, as well as a liking for wine.

The second case is altogether different in character, but quite as marked.

It is that of a young student, who is working at his college, when he comes home in consequence of inability to continue his mental labour, and with a feverish attack. He becomes ill, and I see him in what I considered to be the fifth day of an attack of typhoid fever. He is restless, has severe headache, his eyes are brilliant and pupils somewhat inactive to the stimulus of light, his skin pale, and temperament leucophlegmatic. He has not slept much for some week or two, and talked a little at random on the preceding night. His pulse 102, running and thready; temperature 102.4°. Tongue very moist, but little furred, and slightly swollen. He is not particularly thirsty. There is some tympanitis; skin dry, bowels confined. He had vomiting for a day or two at the first commencement of fever, but the sickness is gone, and he does not care for food, though he enjoys cold drinks. The urine somewhat scanty, high-coloured, but loaded with lithates, and non-albuminous. I regarded it as one of those cases of typhoid in which cerebral symptoms were likely to develop very rapidly, in consequence of the brain, having been over-excited, and not purifying itself from the consequences of its work; and in every case which I have met with, and which had been treated with stimulants every one had died, sometimes after violent and continuous delirium, ending in subsultus tendinum and unconsciousness for twenty-four hours or more before death.

I advised, therefore, that all alcoholic beverages should be laid aside, and the case treated with salines, bromide of potassium, and milk; whilst we should relieve the loaded bowels by gentle aperients, and watch for complications. The heart sounds were normal, but there were some mucus rales in the chest, which were uncomfortable at so early a stage of the fever.

The case, after two or three days of suspense, ran a satisfactory course; the bowels were relieved by slight laxatives, the restlessness subsided, fair sleep was obtained, the characteristic rash came out about the ninth to the fourteenth day, the tumid abdomen subsided, the tongue lost its swollen character, and on the nineteenth day (when I saw him for the third time), was clean. The temperature 99.8°, the skin acting freely, and the appetite becoming more keen, so much so that I said to the mother, "In two or three days you will be altogether out of the wood." Two days afterwards I had a telegram saying, "Come as quick as possible; my boy is dying." I went that afternoon. One of his medical attendants met me at the station, and said at once, "I don't know what has produced the condition, but H—— is comatose. He was very excited yesterday, wanted to get up and go out, insisted upon doing various things, was violent in the

night, and to-day has been unconscious since 10 a.m." (this was at 4 p.m.). I found him as reported; the conjunctivæ were turgid, and non-resistant when the finger was placed on them, the pupils were contracted to a point, the skin was hot and dry, the face flushed, and the patient took no notice whatever of those about him, but the pulse was full and steady (88), not like to that of a dying man, the heart sounds normal, the breathing steady, but inclined to stertor. The bowels had acted freely two or three times the day before, and there had been a free secretion of urine, and it continued free from albumen. The temperature had been taken several times since my visit two days before. The same night it sank to 98.4° , in the night it was 98° only, yesterday it sank to 97.6° , then in the evening it was 96.8° , and now I find it 96.2° . The medical attendants had viewed this fall of temperature with some alarm, and, acting upon an implied consent to the administration of alcohol, had allowed him to have champagne the day before, with the natural result of a still lower temperature. Since last night he had had eight ounces of brandy in addition to the half bottle of champagne which he had insisted upon having, and which fact the nurses had not communicated to the medical men in attendance. The error arose from my inadvertent consent to his urgent entreaty that he should be allowed a little claret and water on the occasion of my third visit. He had had that claret and water; it gave him a restless night, reduced his temperature below the normal standard, and, from a mistaken idea that alcohol would elevate the temperature, wine was administered more freely the day before. The restlessness and excitement were increased; those symptoms were looked upon as reasons for increasing the dose of the stimulant, until at length its narcotising properties were forthcoming. Perhaps he might have slept off the effects, and have recovered in spite of the treatment, which then in that case would have been regarded as the cause of the recovery. Having carefully considered all the points with his medical attendants in another room, I came to the conclusion that the coma was caused by the so-called remedies. I went back to his bed-room, and, giving him a good shake, called out quite loudly, "H—, old boy, how are you?" He heard me, and, opening his eyes, looked at me with a tipsy leer, said, "Oh! is it you?" and lapsed again into insensibility. I was quite satisfied as to the condition, but felt myself on the horns of a dilemma. However, I asked his medical attendants to leave me to get out of the difficulty without casting any reflection upon their treatment, having pointed out to them the real state of the case. It was my duty to restore the patient, not to make reflections. I saw the mother downstairs, I told her that of course there was jeopardy,

but that I thought the danger more apparent than real; that we should discontinue the stimulants which had been given, as not being efficient enough to meet the severity of the case, and that I proposed to give him a more powerful remedy—a single drop of the strongest liquor ammonia every half hour. I advised that he should be made to swallow as much liquid as could be managed in the form of tea and milk and potass water, and with external appliances I hoped to find to-morrow that he had recovered his consciousness, and that he would be restored to her as I had promised on my preceding visit.

There was no idea on the part of the parents as to the error that the nurses, rather than the doctors (for there were two experienced women in charge of the case), had committed, and I had the pleasure the next day in finding my anticipation correct; the coma was gone, headache and *malaise* alone remained, the temperature had risen to 98.4° , there was slight tumidity over the abdomen, the bowels had not acted, but tongue was moist, a little whiter than normal. He had slept, however, for some half-an-hour at a time after several doses of bromide of potassium, and two days afterwards was sitting up in bed and suffering from nothing but a ravenous appetite and general debility.

I have brought these typical cases to your notice for the purpose of showing that one must not always assume that the symptoms in the case are those of the disease which you are called upon to treat. You must ask yourselves whether they are masked by previous treatment; patients and their friends will treat themselves before the doctor is sent for, and in cases in which a consultation is sought for, either at the instance of the medical attendant or of the patient's friends, the former may have exhibited larger doses of powerful remedies than he is aware of, and the symptoms of the remedy may be masking the character of the disease. I have seen this in at least two cases in which belladonna had been given in excess. Narcotics and stimulants are the most usual medicines which have been prescribed, especially the latter. The reduced temperature, the moderately quick pulse, the contracted pupil, the flushed conjunctivæ, the dry skin, and the headache, may all be added to or produced by the remedy used, and may, therefore, mask the disease and cause erroneous views as to nature, prognosis, and necessary treatment. We can only act upon the information afforded, and if deceived, either wilfully or by ignorance, it is the patient who suffers as well as the reputation of the physician who is consulted.

I am satisfied that it is far better to allow disease to run its course in a natural way, and to pilot the case through the blood storms which the disease may be setting up, rather than by

rendering the nervous system less sensitive to the influences of disease by deadening the activity of those nerves, and whilst so deadened allowing disease to establish itself, and so organic change may take place, never to be entirely removed. This appears to me to be the effect of the alcoholic treatment of disease. It is better for the patient to endure the discomfort, and ultimately get quite well, than to be comforted, as it is called, by the use of intoxicating liquor, and so allow real disease to gain a standpoint, instead of the simplifying upset which arises from the functional disturbance caused by the determination of natural laws to assert their predominance, which leads in the end to a perfect cure.



THE REPORT OF THE COLLECTIVE INVESTIGATION OF RHEUMATISM.

By DR. J. JAMES RIDGE.

THE Report of the Collective Investigation Committee of the British Medical Association on the subject of Rheumatism which has recently been issued deserves careful perusal on the part of those interested in the Temperance question. The reporter, Dr. Whipham, deserves great praise for the care and labour expended in tabulating the 655 cases of which particulars were furnished. The information thereby afforded is extremely interesting in several respects, but it is my purpose here to call attention specially to the results which are connected with the use or disuse of alcohol. Dr. Whipham's own remark is as follows:—"On the whole the figures are in favour of the teetotalers; but in three of the most important points it is distinctly the reverse, and it is somewhat surprising to find—first, that the average duration of the whole attack is 23·6 days in intemperate males, as against 25·27 days in temperate males, and 27·26 days in teetotalers; secondly, that the percentage of deaths in teetotalers is more than double that of temperate persons; and, thirdly, that the percentage of heart affection is in teetotalers 54·41, as against 40·59 in temperate males, and 46·87 in intemperate males."

The results are given in the following table:—

	Average Age.		Percentage of	Average age at
	Males.	Females.	first attack.	first attack.
			Both sexes.	Both sexes.
Teetotalers	18·86	18·77	67	16·23
Temperate	27·40	20·57	54	17·65
Intemperate	33·74	31·00	56	22·9

	Average number of previous attacks.	Average duration in days of						Percentage of deaths.	
		Fever.		Pain.		Whole attack.			
		Both sexes.	Males.	Fem.	Males.	Fem.	Males.	Fem.	M.	Fem.
Teetotalers ...	·58	11·59	10·37	11·31	12·22	27·26	38·08	5·79	3·54
Temperate ...	2·15	11·37	12·10	14·28	13·38	25·37	24·23	2·20	2·07
Intemperate...	1·25	11·05	12·50	14·46	10·00	23·60	7·00	6·89	0·00

	Recovery per cent.				Percentage of recent heart affections.	
	Complete.		Partial.			
	Males.	Females.	Males.	Females.	Males.	Females.
Teetotalers	83·63	63·75	15·15	31·25	54·41	43·58
Temperate	73·89	69·27	22·34	26·56	40·59	49·47
Intemperate	53·12	—	38·70	—	46·87	—

It is certainly surprising, at first sight, to find that the death-rate is highest among the teetotalers, although there is the set-off of a larger percentage who completely recover. It is only natural to expect some explanation of this result. I do not think that the explanation is to be found in the smallness of the figures; for, though these are not as large as is desirable for a sound conclusion, yet they are sufficiently large to give an indication of the result of larger numbers.

The figures cannot be relied on to indicate the relative liability of abstainers and non-abstainers to attacks of rheumatism. The abstainers furnish about 23 per cent. of the whole number, and it is not unlikely that the knowledge that the patient was an abstainer was the reason which may sometimes have decided the medical attendant to report the case.

The most probable cause of the unfavourable results among the abstainers is, I think, the younger average age of the teetotalers. It is notorious that the great bulk of the noble army of abstainers are the members of our Bands of Hope, and the young people who have lately belonged to them. It is unfortunately true that the customs of society, the temptations to drink, the difficulties of total abstinence, the advice of the doctors, and other causes, lead to the continual falling away of numbers, so that every decade will show a diminished proportion of abstainers. Hence we find that the average age of the teetotalers is at least eight years less than that of the moderate drinkers. As one

consequence of this younger age it will be observed that the percentage of first attack is considerably greater among the abstainers. Now it will be conceded that the first attack of genuine rheumatic fever is generally the most severe attack: it is more acute and more likely to be complicated with heart disease than subsequent attacks, and occurring in persons who are still young and not fully grown it is more likely to be attended with fatal results.

This is clearly seen by comparing the data with regard to children under twelve years of age with those relating to teetotalers over that age. Thus we find a mortality of 6 per cent. among children under twelve, and of 4 per cent. among abstainers over twelve. The percentage of recent heart disease among male children is 72, and female, 50; whereas among the abstainers (excluding children) it seems to have been only 40 per cent. among males, and 35 per cent. among females; *less*, that is, than among non-abstainers. The reporter remarks on the "excessive liability of children" to heart disease, and this may fairly, I think, be considered to explain the unfavourable results.

Out of the 22 deaths reported no less than 18 suffered from heart complication, mostly of a severe nature, and hence any class specially liable to heart affection will increase the average mortality of those with whom they are reckoned.

I find also that no less than 14 deaths out of 21 (for one death was due to enteric fever) were in first attacks of the disease, which confirms my view as to the greater severity and danger of the first brunt. Of these, 14.5 were under twenty years old; 3 between twenty and thirty; 3 between thirty and forty, and 3 over forty.

Dr. Whipham states that no inquiry was made as to the existence of any hereditary tendency, and suggests that if this factor had been noted it might have accounted for the large number of children who were reported on. If it should be the case that persons who have an hereditary tendency to rheumatism have it on the average at an earlier age than where there is none, we may here find an additional cause of the average longer duration of the disease in the total abstainers, whose age, as the tables show, is so much less than in the other classes.

As to the ætiology of the disease Dr. Whipham evidently regards beer as a predisposing, if not an exciting, cause, although the inquiry does not furnish any clear evidence on this point. The only class which supplies an unusual number of cases is that of domestic servants, and their greater liability he attributes partly to an inordinate consumption of beer and meat, and partly to want of exercise. It seems to me that carelessness as regards exposure is probably a still more common cause in this class, especially among female servants. It would be interesting to

compare the kinds of disease from which our teetotal Friendly Society men suffer, and those which prevail amongst the Foresters and Oddfellows. Chronic arthritis, or "rheumatic gout," would be found, I think, much more common among non-abstainers, but I am not so certain respecting acute rheumatism. The conditions necessary for the occurrence of this disease are not yet understood. I have long regarded the disease as a kind of nerve-storm affecting the fibrous tissues of the body, similar to those nerve-storms which affect mucous tissues, and result in catarrhs of various organs. But why a chill will set up a catarrh in one case, a fibrous inflammation in another, a parenchymatous inflammation in a third, is at present beyond explanation.

With regard to treatment no special inquiry was made as to the administration of stimulants, and so no conclusion can be drawn from the reports. It is mentioned that some of the fatal cases had them, but probably they were given in many other cases also. There were twenty-six cases of acute rheumatism treated in the London Temperance Hospital during one year (1886-7), and all these recovered. Sixteen of the 26 were first attacks, and in these 16 there were 4 cases of heart affection, or 25 per cent., all systolic bruits, and one pericarditis in addition. All were treated without alcohol.



DR. GEORGE HARLEY ON ALCOHOL.

(To the Editor of the *Medical Temperance Journal*.)

DEAR SIR,—May I be permitted to call attention to certain statements in the able and interesting lecture by Dr. George Harley, F.R.S., printed in the January number of the *Journal*, which it appears to me difficult to reconcile with one another?

(1.) On p. 61, it is stated that "experimental results, showing that alcohol retards the respiratory processes by diminishing blood oxidation, furnish a chemical explanation of the theory propounded by Dr. Hammond, that the moderate use of alcohol increases bodily weight by retarding tissue metamorphosis;" and

(2.) On p. 70, the increase in body-weight of patients taking small quantities of alcohol with their food, and the obesity of brewers' draymen and of the typical "*Maitre d'Hotel*," are adduced as proofs that "the use of alcoholic stimulants is conducive to bodily nutrition." The questions I should like to ask are the following:—Are not the latter facts sufficiently explained by the former? If alcohol retards tissue-metamorphosis, must it not lead to the storing up within the body of what would otherwise be cast out of it as waste-matter, and can such a hindering of normal metabolism be regarded as conducive to the true nutrition of the body? Is increase in body-weight to be considered as a sign, *per se*, of a state of increased nutrition? And finally, is it not a common matter of observation that brewers' draymen, and those of similar habits, are less able to resist and rally from acute diseases and accidents (quite apart from the diseases which owe their origin to alcohol) than those whose systems have not been brought under the influence of this potent drug?

Yours truly,

Feb. 18, 1888.

AN ASSOCIATE.

Miscellaneous Communications.

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CLINICAL LECTURE ON ALCOHOLIC ASTHENIA.

Delivered at the Northern Hospital, Liverpool.

By JAMES BARR, M.D., Physician to the Hospital.

GENTLEMEN,—The various phases of alcoholism have been so well threshed out from all points of the compass that it might seem impossible to approach the subject from any fresh aspect; however, although we may be able to throw no new light on the question, we have almost daily new illustrations of its baneful influences. You do not require to go to the tomes of a medical library to study the effects of alcohol. Unfortunately, we have greater opportunities of viewing the evil which it has wrought than the good which it accomplishes; the former is so widely and so plainly written that he who runneth may read, while it often takes a discriminating eye to discern the latter. It is with its evil consequences I have in this lecture to deal, and from the condemnatory remarks which I shall have to make on its use, or rather abuse, you may (as a patient told me a few days ago) almost think I am a teetotal doctor. I have no wish to earn such a distinctive title, even if it were true. Medical men are not the custodians of the public morals, and I think it would be a great mistake if they attempted to become so. The abuse of alcohol is a social problem which has much deeper and wider roots than many of our teetotal friends are willing to admit. If you stopped its use to-day you would have a much worse drug in its place to-morrow. However, our duty as medical men is not merely to cure our patients, but also to instruct them in the line of prevention; and as alcohol is a potent factor in the production of many diseases, we should err in our duty if we did not warn them against its abuse.

An admirable lecture, by Dr. Samuel Wilks,* “On the Indiscriminate Use of Alcoholic Stimulants in Disease,” delivered twenty years ago, is well worthy of perusal. Not one word which he then stated has ever been seriously controverted, and certainly never disproved. He showed that alcohol was not a stimulant in the proper sense of the term, but a sedative. It does not enable a man to do more or better work, but it soothes an irritable nervous system when the work is over. Alcohol blunts the sensations, and makes a man more oblivious to his moral and physical infirmities. Of recent years there has been a growing tendency to curtail the use of alcohol both in health and disease; and I am inclined to think that in the present day it is not much abused in medical prescriptions. The public, however, still believe it to be a valuable means of support, a tonic *par excellence*, and the idea of it producing asthenia has not yet got beyond the medical mind. Tonics improve the vascular tone, alcohol diminishes it, yet the idea of its tonic and supporting influence is so strongly rooted in the public mind that it is often difficult to restrain the friends of patients from administering it in cases where it would be highly injurious.

Alcohol is a potent agent in producing vaso-motor paresis, and the condition of the blood-vessels often affords valuable indications for its use in disease. Unfortunately this parietic influence is so agreeable to alcoholic tipplers, that it is too frequently established and too constantly maintained. In my paper on the

* The *Lancet*, vol. i., 1867, p. 505.

"Etiology of Aneurysm" * I showed that primary mesarteritis, or fatty degeneration of the media, "occurs over extensive arterial tracts, and is generally found in alcoholic drinkers of sedentary habits. It is associated with a flabby condition of body and fatty degeneration of the muscles, is easily recognised by the defective arterial tonicity, and gives rise to badly regulated blood supply, with consequently imperfectly nourished tissues." Further experience has confirmed the view then expressed. The power of alcohol to lessen vascular tone can often be used beneficially, but when this state has been maintained until degenerative changes have ensued it is difficult to repair the damage produced. Alcoholic drinkers usually imbibe large quantities of liquids, which, however useful as diluents, increase the bulk of fluid in circulation, and so any lessening of the work of the heart by the reduction of the peripheral resistance is more than counterbalanced by the increment in the fluid it has to drive. The large vascular area is well filled, the tissues get well soaked, and the individual presents a rounded outline, few angularities, and altogether, to the uneducated eye, has a much healthier appearance and happier frame of mind than his leaner and more temperate fellow. Soon the tables are turned, degenerative changes quickly set in, it may be primarily of the circulatory system, so that not only do the blood-vessels and muscles, as we have stated, suffer from fatty degeneration, but the heart itself; the cardiac asthenia becomes more and more pronounced; there is not much force imparted to the blood, which thus moves slowly; and under the increased static condition fluid transudes very readily through the walls of the capillaries, and is not so easily reabsorbed; so we get dropsy. On the other hand, the excretory organs may be first affected, excrementitious products retained in the blood, and eventually the cardiac mischief complete the life history.

In the *Asclepiad* * there recently appeared a very vivid word-picture of alcoholic asthenia of the heart, in Dr. B. W. Richardson's graphic and fluent style of writing, which I would strongly commend to your notice. The patient who will now come before you was sent in under my care by my friend Dr. G. G. Stopford Taylor, who was anxious to see what could be done to save a life which was being certainly extinguished by the administration of brandy contrary to Dr. Taylor's instructions. The following is an abstract of the case, taken from the copious notes of our late house-physician, Dr. G. Thompson.

Case of chronic alcoholism, cardiac asthenia, extensive anasarca, and delirium; urine and fæces passed involuntarily; great muscular atrophy; treatment by massage, &c.; gain of 60 lbs. in weight; cure.—C. P—, aged fifty years, confectioner, was admitted to the Northern Hospital, under my care, on January 31st, 1887. Owing to this patient's mental condition it was impossible to obtain from him any definite information as to the history of his illness, but from other sources we learned that he was a man of intemperate habits, who had been long addicted to the consumption of large quantities of beer. For some months he was confined to the house and bed with increasing weakness and dropsy, and latterly he had been almost fed on brandy through the misdirected attention of a drunken spouse. Otherwise he seemed to be a man who had a good constitution, without any hereditary tendency to disease. He is of average height, and when in health weighed between eleven and twelve stones.

Condition on admission.—He has a singularly happy, careless expression, is rather incoherent and rambling in his conversation, and his memory is very defective. There is great œdema of the lower extremities and dependent parts of the body. Along the thoracic and abdominal parietes there are large œdematous folds, which give a great apparent width to the trunk. There

* Liverpool Medico-Chirurgical Journal, July, 1881.

* Vol. iii., p. 193.

is no œdema of the face or arms. Tongue moist, rather flabby, and slightly furred. Appetite moderate. The abdomen is flaccid and moderately tympanitic. No ascites. Liver dullness four inches and a half. Bowels constipated. He has a large left scrotal hernia. Respiratory system: He has some cough, and a little purulent expectoration. Over the lungs anteriorly there is no dullness on percussion. Vocal fremitus equal. The breath sounds are harsh, but there are no accompaniments except towards the left axilla, where there are a few medium crepitations. Posteriorly, some dullness at left base; otherwise percussion fairly resonant on both sides. Vocal fremitus and vocal resonance about normal. Over right back breath sounds are harsh, but there are no accompaniments. Over left back breath sounds are faintly bronchial, accompanied by a good deal of medium and large crepitations and an occasional rhonchus. Circulatory system: Pulse 100 per minute, regular, of moderate volume, but easily obliterated. Arteries large and slightly atheromatous. The upper border of heart dullness is on the level of the third costal cartilage. The apex beat cannot be felt, but percussion and auscultation locate it in the fifth interspace in nipple line. Right border three-fourths of an inch to the right of the mesial line. There is pulsation in the epigastrium. Heart sounds feeble. Urine four ounces in twenty-four hours; acid; sp. gr. 1018; no albumen, and no deposit. There is some impairment of sensation in lower limbs; nerve impressions delayed one-fourth to half a second; no motor paralysis; superficial reflexes slightly present. Pupils small. He was placed on ordinary diet, and allowed very little fluid. Ordered two grains of citrate of caffeine every three hours.

Feb. 4th: Urine twelve ounces; sp. gr. 1020; no albumen. Bowels confined. He is very drowsy and listless. Pupils contracted. Ordered caffeine citratis, 2 grs.; ℥liq. strychnini, 3 m.; aq. ad 1 fl. oz.; a draught to be given every three hours. He was also

ordered one ounce of sulphate of magnesium each morning. — 10th: He passes from twelve to twenty ounces of urine daily. Pulse 84, rather stronger. Temperature has ranged between 98.4° and 99.6°. The anasarca is slightly less. To-day there is some friction in the left axillary region, for which there is ordered a mustard and linseed poultice. Bowels open. — 17th: The breath sounds are very harsh all over chest, and numerous rhonchi: no dullness on percussion; vocal resonance normal. Respiration 28; pulse 84; temperature 100.0°. Œdema declining. He was now ordered a mixture of carbonate of ammonium, squills, and senega. — 21st: Takes his food badly; complains of thirst. There is still some bronchitis. Respiration 22; pulse 96 to 100. Urine increased in quantity, but passed involuntarily. He sleeps very little, and is so very noisy at night that he had to be moved into a private ward. He was ordered a fish diet, with sago pudding and a pint of milk. — 24th: He is still very delirious; incontinence of urine and great prostration. Temperature 98° to 99°; pulse 102; respiration 24. Ordered the addition of ten minims of tincture of digitalis to each dose of the mixture of the 17th.

March 4th: Temperature subnormal; pulse 88; respiration 24. Urine can be occasionally collected, and on the 2nd it measured forty ounces. Mutton broth added to his diet. — 8th: The anasarca is nearly gone, and with its disappearance the emaciated condition of the body is being displayed. He is rather quieter, though still very incoherent and rambling in his speech. The urine is occasionally passed involuntarily. Pulse 84 to 96. He is now placed on a mixture of digitalis and nux vomica. — 15th: His mental condition is improved, but he is more prostrate. The œdema is gone, and the body is extremely emaciated. There are numerous congestive râles at the bases of both lungs, and there is some muco-purulent sputum. Temperature 98° to 99°; pulse 88 to 92, very feeble; respiration 28 to 40. Urine and fæces passed involuntarily. — 24th: He is coughing very little now,

but he does not seem to gain any strength. He is very drowsy; inclined to sleep all day. Temperature 98° to 99° ; pulse 88, very feeble; respiration 16 to 26. Heart sounds barely audible. Urine and fæces passed involuntarily. Ordered a liberal milk diet, bread-and-butter, and two eggs. — 30th: He seems to get more and more emaciated, so that there is now very little left except the skeleton. Pulse 52, feeble, and very intermittent. Heart sounds exceedingly weak. Have been lately trying to overfeed him; ordered to-day one pound of minced meat daily.

April 6th: Temperature has ranged between 98° and 99° . Pulse rather variable, about 60, very feeble. Ordered five grains of carbonate of ammonia, and ten minims of tincture of nux vomica, thrice daily, in lieu of his last mixture. — 11th: He has been very prostrate lately, and fainted on two occasions when moved for sanitary purposes. To-day he is rather more lively, and the pulse is slightly stronger; it is now 60 per minute, though for several days it has been only 44. Temperature 98° . No control over bowels or bladder. I have recently been proposing to treat this patient by general massage, but as he is apparently in a dying condition, the question is deferred for the present, lest any slight shock or movement might arrest the extremely feeble heart, and so the treatment get some blame to which it was not entitled. — 15th: Pulse 68 weak, and very intermittent; heart sounds scarcely appreciable; there is a faint mitral systolic bruit. — 19th: He is no worse to-day, but could scarcely be in a more helpless condition. His heart sounds are merely appreciable as a faint *susurrus*, and at the apex the first sound is replaced by a slight systolic murmur; pulse small and easily compressed. Temperature 98° to 98.6° . Urine and fæces passed involuntarily. He lies helplessly on his back, without any attempt at movement. He is emaciated to an extreme degree; his abdomen is completely collapsed, so that the anterior wall lies back against the spine, and the lower borders of his large thorax stand prominently out. In short, his phy-

sical conformation looks exactly like a large skeleton with a tight skin drawn over it. When weighed two days afterwards he was found to be only 85 lbs. We began a course of general massage to-day. He was placed on a milk diet, which was soon increased, so that on the 24th he was taking four pints of milk, a cup of coffee, two ounces of butter and a fair supply of bread, two eggs, a pint of raw meat soup, a chop, and a few potatoes. These last two articles had to be stopped on the 26th on account of diarrhœa, but they were again resumed on the 30th, in addition to fish, which was ordered on the 28th.

He gained $1\frac{1}{2}$ lbs. in weight the first week of massage, 3 lbs. the second week, 8 lbs. the third, 5 lbs. the fourth, and 8 lbs. the 5th week. He is now (May 24th) very much better; his mental condition is all right, and there is a very decided gain in strength as well as flesh. His pulse is 84, much stronger, and the heart sounds are clearer; the mitral systolic bruit is still present. After the first three weeks of massage he had some control over the bladder and bowels, and part of the urine could be collected. He now knows when the bowels are going to be moved, but he had frequent mishaps with his urine until May 31st, when the incontinence ceased. He then weighed 116 lbs., having gained 31 lbs. in six weeks. On May 25th he was ordered a mixture of sulphate of iron, quinine, and strychnine.

He was now allowed to sit up for a short time each day, and after a little he was assisted at taking a few steps through the ward. The massage and the high feeding were continued.

June 28th: His progress has been highly satisfactory, having gained during the last four weeks 23 lbs. in weight. He now weighs 139 lbs., showing a total gain of 53 lbs. during the ten weeks' massage. The heart sounds are now about normal, and there is no murmur. Since he began to move about there has been slight œdema of the feet after he has been up for some time, but this is now lessening. He has a little difficulty in getting on his feet and steadying himself, but when

he has accomplished this he can then walk with the aid of a stick. There is partial paralysis of the extensor muscles in front of both legs, so that he walks with an equinal gait. He walks with a very wide base, the feet turned out, and raised high to prevent the drooping toes from hitching against the floor. This paralysis was soon cured by the application of the galvanic current. The massage was continued in a modified form till the end of July, when it was stopped.

Sept. 20th: You see him to-day in excellent health and strength. He now weighs 145 lbs. without clothing, showing a total gain of 60 lbs. in weight. You can examine his whole body; about all you will find amiss are some bad teeth, and a large reducible scrotal hernia. We had some difficulty in getting a truss to fit him, but, having succeeded, his rupture now causes him no inconvenience, and I certainly have no intention of recommending him to undergo any operation for the radical cure of hernia, but I have no objection to the attention of a dentist.*

Such, gentlemen, is a brief history of what, I think, I may term a remarkably successful case, a case which reflects the highest credit on our nursing staff. The patient has been cured of his disease, and, I trust, cured of his taste for alcohol. Of its baneful effects he has ample experience, and if "experience teaches fools," I think he has a sufficient modicum of common sense left to derive some benefit from his lesson. We shall now cease to be his custodians, and I hope he will be able to withstand the temptations to which he will, no doubt, be frequently exposed.

There are many points in the case narrated which merit some serious consideration, and from which I hope I may be able to deduce some practical teaching. In such cases as this, and even in those of much less severity, it is a disputed point as to the advisability of suddenly cutting off all supply of alcohol—whether it would not be

better and safer to gradually taper it down. It is argued that it is an error to abruptly interfere with any long acquired habit; in cases of alcoholism, where the nervous system has been long accustomed to a stimulus, there is apt to be collapse when the supply is cut off. I have seen both plans tried, and I am convinced that, so far as the temporary well-being of the patient is concerned, a moderate allowance of alcohol may be given in many cases with advantage, but I am equally convinced that no cure can be effected while the alcohol is continued. For my own part, I remove the cause at once, and this is in accordance with the practice of many of our best physicians; therefore, if it be an error, I err in good company. No doubt alcohol relieves the feeling of great depression which is invariably present in these cases. It causes vaso-motor paresis, quickens the action of the heart, and for a time gives a plentiful supply of blood to that organ and the brain, and thus a sense of comfort is experienced which attests to the value of the drug. Soon, however, the effects pass off, leaving the body more exhausted than before, and thus a renewal of the dose is called for. The effects are as evanescent as the Irishman's experience of champagne: "It was a most deceitful sort of drink; when he thought that he was comfortably drunk for the rest of the evening, he found that in an hour he was quite sober." When the jaded heart and brain are completely worn out by these repeated stimulations, if rest will not save them, the desired end is not likely to be attained by any further whippings.

The mental condition.—Dr. B. W. Richardson vividly depicts the mental phenomena in alcoholic asthenia as follows:—"As the circulation varies, the mind varies; as the gaslight flickers and changes when the pressure is variable at the main, at one minute flaring away with noise, heat, and bluster, in a little failing to a mere point, so that there is fear that it may go out altogether, and in another period burning with fair steadiness but no persistent certainty,—so that light

* Jan. 10th, 1888.—I visited this man to-day, and found him in excellent health.

of life, the mind of the person who is suffering from alcoholic asthenia of the central organ of the circulation, blusters, ebbs, flickers, and varies as the pressure of the blood varies and determines the effects. At one moment the mind is vehement and inconclusive, at another it is so feeble that it can determine on nothing definitely. Again, for a season, it assumes some degree of order, but at its best it is uncertain, ever hoping against hope and striving against strife, towards despair or imbecile fatuity.”*

There are frequently well-marked delusions, but the insanity is usually of a pleasant type. The patient is well pleased with himself, and finds no fault with his surroundings. He is often mentally engaged at his usual avocation, and is rather noisy and demonstrative in the supposed execution of his work. He may answer questions intelligently and give a fairly accurate account of his early history, but late events are blank, and he may have no conception of his present whereabouts. The insanity in these cases stands much in the same relation to delirium tremens that monomania bears to acute mania. All the senses are blunted, there are no illusions, the impressions of external objects do not conjure up things terrible, consequently there is no fear or dread. He lies oblivious to the environment, and the delusions are engendered within, the result of his weak and irritable brain. He is often very restless, but the mind is weak, vacillating, and easily restrained. You have only got to tell him firmly to get into bed or keep quiet, and straightway you are obeyed; but once your attention is withdrawn, the delusions and restlessness recur. Our patient was too prostrate for his mental condition to give rise to much trouble; he was unable to get out of bed, but he made free use of his voice. You recollect the man Taylor, who was recently in Ward 17, and whose case closely resembled that of this patient. He had the same mental confusion, cardiac asthenia, anasarca, and in-

voluntary evacuation of bowels and bladder. He was not, however, so prostrate, and was constantly getting out of bed and roaming about the ward. He generally answered questions intelligently, but had no conception as to where he was. When left alone his mind was often engaged driving his team, and he was particularly boisterous at night. We cured his dropsy, but his mental condition did not improve, and, when I was away on a short holiday, he became so troublesome that he was removed to the Liverpool Workhouse Hospital. I have since seen him there in the asylum ward. He did not know me, and although he correctly remembered being in this hospital some years ago with an injured hand, he had no recollection of his late residence here.

A distinctive feature of these cases is the turning of night into day. They may be very drowsy during the daytime, but once the house becomes quiet and everyone else is thinking of retiring to rest they wake up, and there is no rest either for them or the attendants until the morning. In private practice they are even more troublesome than in hospital, as the moral control of friends and subordinates is not so effective as that of a nurse. In the early stages of this condition, while there is still a craving for alcohol, they will have it if it can be got. I have seen many such cases. Some years ago I had a good deal to do with a very able man, physically and mentally, but who unfortunately was addicted to drink. Some of his drinking bouts would last for several weeks, others for as many months. He often slept all day, except when he woke up to get a drink; but so soon as the night came on, he roused up, moved about in an objectless manner, roamed from room to room, would neither go to bed himself nor allow anyone else to go. He would keep his family playing the piano, reading, or in some other ways amusing his idle fancies. It would seem as if alcoholics were among those spirits

“Doom’d for a certain term to walk the night.”

* The *Asclepiad*, vol. iii., p. 210.

Regarding hypnotics, I have tried them all, and find none quite satisfactory. Perhaps henbane in large doses is about the best. If you can induce your patient to take plenty of liquid nourishment you will find it better than any soporific.

The incontinence of urine and the involuntary evacuation of fæces were evidence of the great nervous prostration; the reflex arc of the spinal cord was intact, but the control of the higher nerve centres in abeyance. Notwithstanding these long-continued discharges, and the extremely emaciated condition of his body, there was never even an abrasion of his skin; these facts speak more highly of the care and attention of our nurses than any words which I can express.

Temperature.—The temperature is usually very variable. Dr. Richardson has seen it in one case fluctuate between 90° and 102° F. He says: "Immediately after the reception of the full dose of the stimulant the temperature runs into fever heat. I have seen it up to 104° F. As the effect of the alcohol declines the temperature rapidly falls, and one of the worst signs of degradation from alcohol is the coldness of the body under deprivation."* This patient when under our care was deprived of his alcohol. The temperature usually did not fluctuate more than a degree; but we took care to keep up the external warmth, and supply him with plenty of body fuel. The massage generally raised the temperature half a degree, and sometimes a degree or more. This is in accord with common experience.

Circulatory system.—The action of alcohol on the heart and blood-vessels is primarily through the nervous system. It has a paretic effect on the vaso-motor nerves; thus the blood vessels become greatly dilated, and the peripheral resistance to the action of the heart is lessened; this increases the frequency but not the force of the cardiac contraction. The same paralytic effect occurs to the coronary vessels, and so the cardiac muscle for

a time receives a larger and more frequent supply of blood, which stimulates the heart to renewed exertion. Alcohol blunts sensation and lessens reflex irritability; so when the vessels are paralysed the circulation is placed more under purely physical conditions, without any regulating influence from the nervous system. With the lessened peripheral resistance, and consequently lessened demand for forcible cardiac contraction, the blood pressure falls. With the diminished pressure there is less energy stored in the elastic walls of the aorta, the blood is not so forcibly driven through the coronary arteries, and thus the heart is not supplied with a sufficient amount of fuel to enable it to maintain the force of its contraction. You must not mistake the large artery and bounding pulse which occur in these cases for a strong pulse; because when the arteries are dilated and comparatively empty between the beats, each ventricular systole causes a large wave and great elevation of the lever of the sphygmograph. There is a sudden shock, which gives the pulse an appearance of strength which it does not possess. Each wave is quick, short, and large, but very easily compressed. While the heart remains vigorous the velocity of the blood is increased during the cardiac systole, but rapidly diminishes during diastole, as with the loss of vascular tone the energy is not stored up in the elastic walls of the vessels. It is chiefly during the diastole of the heart and of the vessels that they are nourished, and it requires a certain amount of pressure to drive the blood through the coronary arteries and the vasa vasorum. When this diminished blood pressure is long continued, the muscular coat of the arteries, the walls of the heart, and the muscles generally, are not properly nourished, and we get fatty degeneration as a result. This would be the effect of large and long-continued doses of alcohol, but it is not usually taken under simple conditions. The individual goes about his employment, so that the paralyzing effect on the nervous system is not allowed to have

* The *Asclepiad*, p. 209.

free play, and the diminished reflex irritability is in many ways counteracted. Alcohol displays some of its worst effects in tipplers of sedentary habits. Alcohol may be given to blunt nervous sensation, to lessen reflex irritability, to lower vascular tone and diminish the work of the heart, but we have no evidence whatever that it ever acts as a tonic to either nerve or muscle. In this patient the power of the heart was reduced to the lowest possible state consistent with life. The sounds were barely appreciable to the ear, and there can be no doubt that the cardiac muscle was not only weak, but also affected with fatty degeneration.

When the liver and kidneys are diseased, as is frequently the case with alcoholic drinkers, you get secondary effects on the circulation from imperfectly elaborated products, and the retention of effete materials in the blood. In this case these organs were healthy, but before commencing the massage I had to satisfy myself as to the functional activity of the kidneys. In courses of massage, with high feeding, I have often seen as much as 1,000 grains of urea excreted in twenty-four hours, and even for the elimination of half that amount there requires to be no renal inadequacy. If you reckon the normal excretion of urea at 1-2,000th of the body weight, then this man, when even at the lowest ebb, should have eliminated about 300 grains, whereas there was rarely 1 per cent. of urea, and so far as we could roughly estimate, which was rather difficult, owing to the incontinence, the total quantity did not exceed 150 grains. However, taking into account his low state of vitality, that he was lying in bed without any great waste of tissue, and that he was not then on a highly nitrogenised diet, I came to the conclusion that his kidneys were structurally healthy.

Dropsy.—This case belonged to the first of the two great classes into which I have divided all dropsies*—viz., where there is an abnormal transuda-

tion from the capillaries without apparent obstruction in the absorbents. We have now to consider the mechanism of its production, because in every individual case of dropsy our efforts at its removal should depend on a clear conception of its mode of origin.

In health the blood-vessels are never fully distended and the quantity of fluid which they contain is constantly varying. The veins themselves are capable of holding all, or more than all, the blood in the body. A considerable over-repletion of the blood-vessels may occur without any abnormal transudation, so long as they retain their vaso-motor tone and the velocity is not materially diminished. Not only do the tone and elasticity of the blood-vessels regulate the amount of fluid which they contain, but the elasticity of the tissues is also concerned in regulating or limiting the amount of fluid which transudes into their intercellular spaces. In such cases as this there is loss of vascular tone, and as tipplers usually consume large quantities of liquid the vessels are kept constantly over-repleted; but so long as the heart keeps up a medium velocity there may be no excessive transudation, or at least not more than can be absorbed by the veins and lymphatics. The tissues are pretty well soaked in fluid, which gives a plumpness and roundness to the body, but there is no pitting on pressure, and the condition does not receive the name of dropsy. Once the heart begins to fail, the velocity of the blood is diminished, the static condition correspondingly increased, and consequently excessive transudation takes place through the walls of the capillaries.

The energy of the blood, of course, depends on the force of the cardiac contraction. This force varies very materially in different individuals. In the same individual in a state of health the range of variation is perhaps slight, but in disease it may be very considerable. Owing to the regulative mechanism of the nervous system the force varies according to the amount of work the heart has to perform. This intermittent force is expended in

* Liverpool Medico-Chirurgical Journal, July, 1886.

driving on the blood, and is partly stored up in the elastic walls of the aorta during ventricular systole, and given out during diastole. Thus in high tension there is a demand for a forcible cardiac contraction; the energy imparted to the blood is great, and largely stored up in the elastic arterial walls; the *head* of the liquid is raised, and so, although the relative velocity of the blood in the arteries during systole is diminished, its mean velocity is increased. The *vis viva*, or energy imparted by the heart, may be represented by the formula:—

$$\frac{MV^2}{2} = \frac{1}{2} \frac{W}{G} 2Gh = Wh.$$

Here *h* represents the height of the blood column maintained by the force of the cardiac contraction; and as the velocity depends on the square root of the height of this column (velocity, $V = \sqrt{2Gh}$), it follows that the higher the tension the more rapid will be the flow of blood through the arterioles and capillaries, where the current becomes uniform. In very low tension there is little energy stored up; the velocity intermits. If the heart be vigorous, it is great during systole, but rapidly falls off during diastole, so that the mean velocity is diminished. In very low tension the resistance may be so diminished that these intermittent pulsations are carried right through the capillaries into the veins. Professor Haughton has shown that capillary resistance is directly proportional to the length of the tubes, and inversely proportional to the cross sections. Therefore in low tension, so long as the heart's action is fairly vigorous, the blood (which moves in the direction of least resistance) flows freely through the capillaries, and there is no tendency to excessive transudation through their walls. This holds good so long as the mass of blood in circulation is not increased; but I have shown that these tipplers consume large quantities of fluids, and so the enlarged vascular area is replenished. This increases the sectional area of the capillaries, and as the velocity is inversely as the sectional area

the movement of the blood is diminished and its static condition increased. Thus there is excessive transudation, and as the heart becomes more feeble the blood tends to accumulate in the venous radicles, and so there is also diminished absorption. When the dropsy is due to the retention of fluid in the system from diminished elimination, without failure in the heart's action, such as occurs in acute Bright's disease, then the transudation takes place into the loose cellular tissue where the capillaries are least supported, such as that of the lower eyelids or of the scrotum, but in this case the kidneys did not act because the very feeble heart sent very little blood through them, there was great retention of fluid in the system, the velocity of the blood was at a very low ebb, and the transudation took place at the most distal points, where the velocity was least and static condition greatest. In obedience to the law of gravity it was found in large oedematous folds on the patient's back and sides.

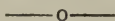
The indications for treating a case like this are, to improve the vascular tone, strengthen the cardiac contraction, and so increase the velocity of the blood. Hence I gave him caffeine, to which I soon added liquor strychnine. Now, in these cases a feeble heart is handicapped with a large amount of blood to move; and you should not merely try to strengthen the central organ, but also afford it relief. What advantage is it, therefore, if for every half-pint of urine that is excreted you put a pint of liquid in the stomach. If you want to quickly empty a reservoir, you should not only increase the outlet, but cut off the rivulets which keep it full. For this reason I diminish the amount of fluid ingested in such cases. It is said that a man can only live for about three days without liquids; but when you get a man like a camel, who carries a large supply, he can go without replenishing for a much longer time. I have certainly in many cases cut off all supply for more than a week, and that stored up in the interstices of the tissues has been drawn upon with the greatest advantage. I

have entered fully into this subject in my article on the "Pathology and Treatment of Dropsy,"* to which I would refer you for further information.

Massage.—I have never attempted massage in any previous case where there was such a mere flicker of life. When I first proposed it, and instructed Dr. Thompson to see about the nurse, the following day the patient was worse, and on my arrival I was told that he seemed to be dying. Under the circumstances it certainly did seem a useless experiment to try any active treatment. In deference to this strongly expressed opinion I postponed the consideration of massage for a time.

The muscles are the great furnaces of the body; in them oxygenation largely takes place, and the effete materials are burned off. It has been truly said that a man digests with his muscles as well as with his stomach, so when we have active muscular exercise the appetite is improved, a greater amount of nutriment is taken in, and tissue change goes on more rapidly. Life implies change; without tissue metamorphoses there could be no life. Some people manage to exist with a small income, and equally small expenditure, but their life is that

of the sloth; it is a mere existence, a sufficient amount of energy to hold the molecules of their composition together, without anything worthy of the name of life. When you want to restore lost energy you must increase the force; but in order to do so there is no use in supplying the fuel without the fire to light it. There is no use in putting nutrients in the patient's stomach unless he is able to assimilate them. If the muscles are run down, and there is no spare nerve energy to make them work, then you must supply the place of the nerve current by massage and electricity. Massage is a most powerful agent for effecting nutritional changes, and with the increased combustion and greater supply of food, not merely the muscles, but also the heart, and every organ of the body are nourished, and nerve energy is stored up for future use. I have seen a pulse which would not even move the weight of the lever of the sphygmograph, give an excellent tracing with a pressure of five ounces after eight weeks' massage. You have seen what can be accomplished, and, as suitable cases occur, you shall have opportunities of witnessing, I hope, equally good results.—*Lancet*, Jan. 14, 21.



MEDICINE IN ITS RELATION TO THE TEMPERANCE QUESTION.

By DR. B. W. RICHARDSON, F.R.S.

DR. RICHARDSON, as president, and the Council of the British Medical Temperance Association, were received at a drawing-room meeting held in the Portman Rooms on Thursday, 1st March. The card of invitation was endorsed by the Rev. Canon Barker, rector of Marylebone, the Hon. and Rev. Canon Leigh, the Rev. J. R. Diggle, M.A., Chairman of the London School Board, and Mr. William Isaac Palmer, J.P. There was a large and influential attendance, despite the bitterly cold weather, that might have

been expected to influence the attendance unfavourably.

The address of Dr. RICHARDSON was on the subject of "Medicine in its Relation to the Temperance Question." He said: I should like to put before you as nearly as I can, as a representative of medicine on the one side and of the cause of temperance on the other, the position which medical men at this moment hold to the great work of temperance reform that is proceeding in this kingdom.

MEDICAL TEMPERANCE OF THE PAST.

In the first place I find it constantly said that medical men, and the medical profession generally, have not

* Liverpool Medico-Chirurgical Journal, July, 1886.

at any time been very strongly in favour of temperance. At once I say that this is an entire mistake—an historical misapprehension, for if we take individual instances of temperance workers, the profession of medicine would, in times past, to say nothing of the present, be found to contain some of the most earnest and some of the most distinguished of the great body of which it consisted. If we were to go back into the remote history of medicine, we should find all through the early Greek and Roman period some who were of opinion that wines and strong drinks were not for the good of man, and if we came down to the middle age period we should find the same fact. We will, however, come within reasonable distance of our own time, and then we find that a large number of medical men of the greatest eminence and position have taken the view which the extremest of us now take. Dr. Cheyne—who was the contemporary of Meade, and Arbuthnot, and Pope, and Swift, and all that galaxy of wit and knowledge which flourished soon after the last revolution—Dr. Cheyne was one of the foremost adherents of our cause in his way. Then in the last century we had the great Baron Haller, who was the leading representative of medicine in Europe. Haller was the journalist of medicine in his day, and his books remain with us as standard works both for practice and theory, and Baron Haller very strongly took our side. There was a most distinguished physician, Dr. Benjamin Rush, who has been called “the American Sydenham”—his knowledge of medicine was so excellent. He was the most eminent physician of his time in America, and perhaps not surpassed by anyone in this country, and he was a strong and ardent advocate of total abstinence. In the beginning of this century we had here Dr. Beddoes, the firm friend of Sir Humphrey Davy in his youth, a man who in this city and in Bristol distinguished himself signally, who invented a system of treating disease by the inhaling of what he called factitious atmospheres—a man far in advance of his time, and one of

the earliest experimentalists with regard to the action of alcohol. We may give to him the credit of being the first discoverer that the presence of alcohol in the stomach disturbs and interferes with digestion. Following him we have the great surgeon Sir Astley Cooper, the brightest surgical representative of his day; he, too, was on our side. We had in Dublin a namesake of the other Dr. Cheyne, who was an earnest temperance reformer all his life. So valuable, indeed, were the late Dr. Cheyne's letters and memoirs on this subject, that I am about to republish them with annotations, as an instance of what a man could foresee and teach at a time when temperance was little to the fore. We have had men also like Sir Benjamin Brodie, Sir Henry Holland, Baron Liebig, and Dr. Hope, on our side. Dr. Hope was one of the first men who began to use the stethoscope for the investigation of disease. The use of this instrument was discovered by Laeunce, a French physician, and Hope was one of the early scholars in this new school of medicine. He left us the first book written on heart diseases, and he was a staunch total abstainer and advocate of the cause. Later on we had Sir John Hall, a distinguished army surgeon, and a very eminent man named Metcalfe, an American, who wrote a great work on vital physics, which book is still a standard and one of the leading works in the discovery of the corollation of force. In Scotland we had a distinguished friend in the late Professor Miller, who, in his now familiar treatise on “Alcohol—its Place and Power,” showed himself to be an advocate of our views to the fullest extent; and finally, during that same period, we had Mr. Higginbottom, of Nottingham, a practitioner in large practice, who stood firmly to our cause until his death. In addition to these individual testimonies, there are memorials signed by a number of distinguished medical men in this country in favour of the temperance cause. I very much doubt whether any profession could find a list more imposing or more powerful, or find expressions that are

more distinct by way of sympathy than those of the medical profession to whom I have referred; and as

"Truth can never be confirmed enough,
Though doubt should never sleep,"

I will read you actually what they say.

Dr. Richardson at this point read a series of telling extracts from Cheyne, Brodie, Astley Cooper, Hall, Liebig, Metcalfe, Hope, and also the document which was signed by Bostock, Dr. Bright, Sir Benjamin Brodie, Dr. Chambers, Sir John Forbes, Dr. Guy, &c. He then continued: I could have extended this evidence still further, but it is enough at this moment to show that there has been in the past of medicine a very strong interest in favour of the cause which we now represent.

WHY IS MEDICAL TEMPERANCE SLOW?

Perhaps it will be asked if all these distinguished men in medicine have spoken so strongly, why is it that in the medical profession so few should belong to our body? Why does everything proceed so slowly with regard to medicine—more slowly than it does in other professions, like the Church? The progress is slow, but we must carefully consider this question all round. First, we must consider it as regards the profession itself, and next in relation to the public. There are three obstacles standing in the way to that complete conversion of the profession to our views which some of us would like to see. In the first place we must take into account the conservatism of medicine. Medicine progresses slowly because the interests at stake in regard to it are so solemn. Everything that it has to do must be laid down line upon line and precept upon precept, and must be carried on by virtue of a continued and unbroken experience in such a way that no schism, no difference, of an extreme kind shall be brought into the medical ranks. There is nothing that medical men fear so much as a sudden innovation. That was the case even with regard to the exposition of the circulation of the blood. That which ultimately immortalised William Harvey was received at first with the

utmost incredulity. His work came upon the world by a stroke of genius, and showed something that was entirely new, and which his predecessors had not seen. This discovery was received with hesitation. In time the proof became obvious, and the man who did not believe in the circulation of the blood was considered as not properly belonging to scientific medicine at all. So it is with everything relating to medicine; all feel that when they move from what has been the basis of medicine into any new path, there must be a great deal of doubt thrown on what is new and also true. All of us know that. We who have taken an interest in medical science in relation to total abstinence, though we may not have thrown away alcohol as a remedy in its right place—I certainly have not—merely because we have come forward, and said what we have seen and some before us have declared so fully, we have suffered. I myself suffered very severely twelve years ago, when I announced myself to be on the side of total abstinence. I was then rising rapidly into a large and lucrative consulting practice. But the moment I announced that change everything changed with it. I am candid enough to say that if I had not had the pen in my hand, if I had not previously learnt another art, if I had not been gifted with the power to write and live by literature, if I had not been trained into a literary life, I could not have withstood the opposition made to that one, and I hope useful, departure from the common course, although it was most honestly made, made upon experimental evidence and fact. But that is what we must expect. If I had not been influenced as I was, and brought face to face with the question as I was; nay, if some other friend of mine—he might have even been one whom I esteemed most highly—had turned round in the same way, I fear sadly I might have felt as many did towards me. I do not for a moment complain, I merely state a fact which must be granted, and any man who will join our ranks will feel even now some opposition due to the natural conservatism of medicine. He must

bear it, and he must not complain. There is something, moreover, in the personal training of men, and especially of medical men. Medical men have been brought up to use alcohol, to believe in it. Many of them have got acclimatised to the alcoholic constitution. We see in to-day's papers that a leading physician in Lichfield has gone back to what he calls moderation. The fact is creating some consternation amongst abstainers. It need not. The gentleman in question was not well, and was recommended by some medical friends to use alcohol, and he has made a public announcement that he is a moderate drinker again. But, really and truly, we need not wonder at that. When a medical man is ill he knows all the dangers and all the peculiarities of his state, and, perhaps, in regard to his own health is specially anxious and specially doubtful. He consults a friend who is not personally an abstainer, and who says "You must go back to alcohol," and then comes a very serious trial as regards our cause; but nevertheless, it is what we must face and endure. I do not think, if I had been in that gentleman's place, I should have gone back again under any advice; but it is to be admitted that there are a great number who, feeling anxiety about themselves, and feeling the personal influence of early training, and being susceptible to the opinions of others, do fall back, and so induce an unsettled condition of mind in others. There is a further obstacle which stands in our way, and that is positively the experience we medical men have of the diseases of mankind. The medical man is brought up to treat disease in a systematic way. He sees one mode of treatment. He goes on treating disease in the same way as he has ever done, and therefore does not easily obtain a view of any new treatment. He continues treating disease as before, and he does not accept readily another method. When, therefore he gets a serious case before him, he hesitates before changing from the old lines. I believe there is no man living who would not. It is a very serious thing to have a human life in your

hands, and to move from a recognised line of treatment, even though it be found in the end that the treatment is false. By gradually working out the whole problem, and by having the courage to see two sides to treatment, we often learn that there has been a fallacy; yet it is most difficult to change it, and, as yet, in medicine there is no organisation for teaching all new truths in our schools. The National Temperance League last year, with a good deal of generosity, invited me to deliver three lectures to medical students on the relations of alcohol to disease and the treatment of disease. Forty students came. They were greatly interested, and they passed a first-rate examination for the prizes offered; but this is the circumstance I want to dwell upon. After the lecture, I believe each time, some student would tell me, "I have never heard of this before. I have never been told anything about the treatment of disease without alcohol. What you lectured on to-day is an entirely new series of lessons to me." The fact is very important indeed; we cannot expect a generation of medical students to rise up, and to pass into practice on our side, unless they are taught our facts. A youth goes into a college, becomes acquainted with his professors. He sees everything about him to win his respect and admiration. He becomes imbued with what is told him, and it is a long day before the lessons go from his mind, and if nothing is said on our side he goes away without any special knowledge bearing on our beliefs.

THE PUBLIC AND THE PROFESSION.

In a similar way we have a difficulty with regard to the public. It is not our own wishes that are concerned. The public are most decided that we shall treat them with alcohol, and the profession is not a rich profession; it is the poorest of the three great professions, and, therefore, when a young man starts in practice, he is bound to obey, to a large extent, what the public say he shall do. I could tell you of a young medical man of great promise who was a total ab-

stainer, and who bought an old-established practice in the country: the principal person, socially, of the district invited him to dinner, but did it with this proviso, that if he came he must take wine. "I can have no nonsense at my table," he said. "I understand that you are a total abstainer, which you may be, but not at my table. There you must drink." Such an imposition meant dishonesty of purpose, or the ruin of losing the support of the great man of the district. All this is extremely difficult to get over, and it will be a long time before we possibly can get over it.

CLERICAL WORK AND MEDICAL WORK.

The clergy often say that we should progress faster than we do because we know the truth so well. The argument is not fair, as I will show you. There is everything on the side of the clergy to assist them in the way of temperance. There is no man living who will dare say that the morality of life must suffer by total abstinence from strong drink—on the contrary, all will admit that good morals run with temperance. If we were to say that a man by taking wine would become morally a better man in consequence, nobody would believe that, so that the clergyman has the stream with him. All temperance is in character with his mission. He is striving to improve the morals of the people, and everybody knows that temperance is a good road to morality. So with the lawyers and the judges. Everybody accepts that strong drink is a great cause of crime. Therefore, the lawyers can argue that abstinence from strong drink reduces crime. But in our profession we stand in an exceptional position. A person says, "We believe strong drink, on the whole, to be wrong—wrong as regards morals, and perhaps as regards health. But when we come to disease, we have evidence, we believe we have proof, and at least we have theory, that it does good, and therefore we are placed in quite a different position." There is faith in favour of the movement with regard to the clergyman and the lawyer, and some belief also

with regard to the medical man, but in his case belief with reservation in favour of strong drink in disease, which sustains prejudices in the professional as well as the social life of the strongest kind.

PROSPECTIVE WORK AND RESULTS.

And now what are our prospects? Have we, in medicine, made any progress towards the sustenance of the cause of total abstinence? I think, everything considered, we have made very great progress. All along the line of medicine there is a desire to reduce the administration of alcohol. Even those who do not belong to our cause, even those fanatics who call us fanatics, are inclined to believe that very much smaller quantities of strong drink than have been given in the past are best; and again, there are many who admit candidly, though they will have nothing to do with us as a teetotal body, that persons who can live and do their work without strong drink are better off than those who say they cannot, and that it is the best after all, but perhaps not the most easy for the moment, to abstain altogether. That is a great admission, and we see it going on in all directions, with a desire, also, on the part of medical men to listen to what is being said on our side. There is not that desire to ignore the great truth as there was some years ago. I have noticed that specially when I have been lecturing in the great towns. Ten years ago, if I gave a public lecture on abstinence, there would not be a medical man present; but for the last few years I have found in every place that there are medical men ready to come forward and take the chair or take some part in the meeting. I have seen a meeting in which a great number were present to discuss the question in all fairness and earnestness. These are good signs, and I was particularly struck with them in Scotland during my last visit there. We have now in London a Temperance Hospital, in which the treatment of disease without strong drink is carried on. I should like to see that hospital doing more clinical and school work, and issuing

more regular reports, such as come from the other hospitals, and are published in the medical journals. I should like to see the profession challenged to watch the treatment there; to know that lectures are given to students, and that a good deal is being done there for medical education. But the hospital is a new institution, and so far its results have been entirely in favour of the treatment of disease without alcohol. We have a *Medical Temperance Journal*, which comes out quarterly, and which, in its way, is quite equal to the other journals; and, lastly, we have this Medical Temperance Association, which possesses close upon 500 members and associates, including seventy-five students, who have joined us. Of this Association we have an Irish branch and a Scotch branch, and we trust soon to have branches in the larger counties and centres of England.

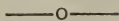
WHAT THE DOCTORS COULD DO.

All this is progress, but still it is slow, and we naturally wish that it should be quicker. We have every cause to do so, for, ladies and gentlemen, if we could get all the medical men in the United Kingdom to join us in the same spirit in which we work in our society, the effect upon the kingdom would be momentous. Nobody can influence the world like the doctor on this temperance question. I speak from individual and from collective experience. I believe that the adhesion of all the profession to our cause would instantly affect the death-rate. If the whole profession could begin to teach total abstinence tomorrow, the death-rate would, I believe, fall two in the thousand, and that would be an immense gain. It would be the first time in the annals of medicine that medical men, by one common effort, entirely their own, have affected the death-rate. The death-rate hitherto seems to have been reduced by sanitary improvements in which others have taken part; but this would be all ours, and it would lead to a saving of life that would be incalculable. Of the 136 millions of money expended on strong drink forty-five millions would

probably also be saved per year. It is well worth an effort to get our brethren to join us, but still I think the progress must always be slow because we have over 25,000 medical men to influence before we can make any very great advance. At the present time only one twenty-fifth of the profession can be considered as engaged in the temperance cause, though as we go on a new generation of medical men may spring up and may yield an increase of labourers in our field. But it will take, at our present pace, at least two generations—sixty-six years—before we can expect any marked change such as I have named to occur. The progress may, however, be more rapid than it is now for another reason—viz., that our profession does not keep up numerically with the rate of population. We are evidently the first profession doomed to die in the light of knowledge. The clergy during the last decade kept up with the people, and the schoolmasters, the actors, and the musicians went far ahead; the lawyers made a little advance, but the doctors fell far behind. In proportion to the increase of the people, the doctors are decreasing. They are not wanted so much as they were, and they have become so advanced in knowledge that they do not intensify disease by any mode of treatment—a happy fact, but not one likely to add to the numbers of healers. The probabilities are that, with a decreasing profession in relation to an increasing population, an increasing spread of knowledge, and an increasing public sentiment permeated with temperance truths, the profession will be brought to see what the public wants are, and will be led not only by their experience, but also by their best interests, to move in the direction of rapid reform towards temperance more speedily than I have estimated; so that although, on theoretical grounds, resting on our present basis, we might have to wait for two generations, one, perchance, may suffice. This advance must depend not alone upon the doctors, but on the public at large. The public must become the great teachers of the truths which our modern physiology

is bringing forth. The public must discover that the country which holds its own most thoroughly amongst the nations is the country that is most temperate. My colleagues and myself, who are so grateful to you for this reception, may not live to see the great

results of complete medical temperance, but we are satisfied that if with us the honour rests of taking at this present time the first steps in the great reform which is to come—it is an honour which will stand above all others in the history of our lives.



ALCOHOL IN OLD AGE.

FOLLOWING up the report of the Collective Investigation Committee of the British Medical Association respecting centenarians, which was published last year, Professor Humphry, F.R.S., has published in the *British Medical Journal* (March 10), an analysis of returns received from medical men respecting 824 aged persons, of whom 340 were males and 282 were females, between the ages of eighty and ninety; and 92 were males, and 110 were females, between the ages of ninety and one hundred.

MALES FROM EIGHTY TO NINETY.

In the return of males relating to present condition and habits, 320 reported thus respecting alcohol: 120 took none; 120 little; 67 moderate; much, 13—one of these took three glasses of wine and half an ounce of spirits.

In regard to the past history of males from 80 to 90, the following report is given:—Alcohol.—298 returns. None, 28; besides these, one “never till 30,” and another “none after 60.” Little (under 1 pint), 95; of these, one took a quarter and one half a pint of beer daily. Moderate (1 to 2 pints)—112; of these, six took 1 to 2 pints of beer or porter daily, one 4 glasses of wine, one half a pint of claret, one was an abstainer till 40, one “little in early life,” one “much in early life,” one took a little rum, one had “tendency to drink,” one “much at times,” one “did not take alcohol daily, but occasionally to excess; 4 pints of beer made him tipsy.” Much (more than 2 pints)—45; of these, two were “free livers,” two “much beer, free livers,” one “very much beer,” one “much beer

regularly,” two 2 to 3 pints of beer, one “2 to 4 pints of beer all his life,” one 4 pints of beer daily, one 6 pints of beer often, three 3 to 5 pints of beer, one “in early life, never intemperate,” one “drank heavily in early life,” one “heavy drinker, able to stand large quantities,” one “much of all kinds,” one “much port,” one “three-fourths of a bottle of Marsala for years,” one “often drunk,” one “freely, never too much,” one took 5 ounces of rum daily, one “a pint and a half of wine and spirits daily for years,” one three glasses of whisky and wine,” one “6 ounces of whisky,” one “drank all he could get,” three “much when they could get it,” one was a publican, one “drank freely of rum (1 pint daily) till 46, none since,” one “took 6 pints of beer and much spirits, was a great drinker till six years ago, never went to bed sober if he could get beer,” one “often drank a bottle of rum before breakfast when in Australia.”

MALES FROM 90 TO 100.

Present Condition and Habits:—Alcohol: 73 returns; none, 21; little, 26; moderate, 26; 1 “takes occasionally a little too much.”

Past History:—Alcohol: 67 returns; none 1; little, 27; moderate, 32—one of these “took much when he had the chance;” much, 7—of these, two were “free eaters and drinkers,” one “took two glasses of beer and four glasses of wine daily,” one “took three glasses of whisky a day,” one was “often drunk and in gaol,” one was “drunk about once a week,” one “boasted that he smoked and drank more than any man in the town, and was most irregular in every way.”

FEMALES, 80 TO 90.

Present Condition and Habits:—Alcohol: 270 returns; none, 105; little, 117; moderate, 44; much, 4.

Past History:—Alcohol: 232 returns; none, 54; very little, 2; little, 109, one of these "none till 35;" moderate, 60, one of these "none till 40;" much, 7, one of these was a "notorious drinker, locked up 200 times for being drunk, father died aged 90, and brother died aged 70, both heavy drinkers."

FEMALES 90 TO 100.

Present Condition and Habits:—Alcohol: 105 returns; none, 32; moderate, 24; little, 48; much 1.

Past History:—Alcohol: 92 returns; none, 22; very little, 1; little, 43; moderate, 24; rather free, 1; much, 1.

GENERAL REMARKS BY PROFESSOR HUMPHRY.

Present Condition:—The good general condition, the good performance, that is of the various functions, in a large number of these old people, is, as in the case of the centenarians, a noteworthy fact, and contributes, it need scarcely be said, in very large measure to the comfort and happiness of old age. In 71 per cent. the digestion, and in 62 per cent. the appetite, is stated to be "good." In only 4 per cent. is the former, and in only 5·4 per cent. is the latter, said to be "bad." The greater number (60 per cent.) are "moderate" eaters, 30 per cent. are "small" eaters, and 9 per cent. only are "large" eaters. A fair proportion (40 per cent.) are in the habit of taking a little alcohol, which in the form of beer, whisky, or brandy, they feel to be a comfort and support, alleviating the sense of sinking which many feel; and perhaps this small quantity, especially if taken in the latter part of the day, does some real good. A smaller proportion take rather more, and are classed as "moderate" drinkers. A considerable number, however, 36 per cent., take none at all, and very few (2·5 per cent.) are described as taking much.

Past History:—Fifteen per cent.

had taken no alcoholic drink at all throughout the whole or great part of their lives, 40 per cent. had been in the habit of taking a "little"—that is, less than a pint of beer or two glasses of wine; 33 per cent. had been accustomed to take it in "moderation"—that is, one or two pints of beer daily; and less than 9 per cent. had taken more than this. The last number is composed chiefly of men who live to between 80 and 90; with respect to the men between these ages, of whom there were 298 returns under this head, it is to be observed that 15 per cent. appear to have drank rather freely—two or more pints of beer daily—and 10 or 12 had drunk rather heavily for a portion or throughout the greater part of their lives. These exceptional cases scarcely detract from the value of the important confirmation which our tables afford of that which good sense suggests, and which ordinary observation tells—namely, that abstinence from, or a spare or moderate partaking of, alcoholic drinks, as well as spare or moderate meat-eating, are most compatible with health and most conducive to the prolongation of life.

Under the saving influences of civilisation, by which the rough-and-ready law of killing is modified, that which most contributes to the prolongation of life and the consummation of the inherited period, is "temperance in all things," especially in eating and drinking and above all in alcoholic drinking, and to a large extent also in meat-eating. If the world did but realise, and would have the good sense and self-restraint to act upon the knowledge, how large a proportion of the ills to which man is regarded as the heir to, and which are therefore looked upon as inevitable, are simply the result of excess in eating and drinking, a large addition would be made to the average term of human life and health, as well as a large economy in the consumption of the materials—the food stuffs—by which life is sustained. This saving would probably more than compensate for the additional requirement made by the addition to life.

Under the term "excesses" must especially be included those small day-by-day superfluities which attract little attention and are thought little of, but the insinuating evil of which accumulates surely, inducing often, in the first instance, a sense of weakness which is thought to imply a need for more of that food or stimulus which

is the cause of the weakness, and which gradually sows the seeds of disease that is attributed probably to some other cause. "Temperance" is the great lesson under this head, which our tables teach; and its importance over-shadowing all others is a reason for not diverting attention from it by mentioning them.

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THE COLLECTIVE INVESTIGATION REPORT ON ACUTE RHEUMATISM.

By NORMAN KERR, M.D., F.L.S.

THE third of a series of reports by the Collective Investigation Committee of the British Medical Association has just been published. The subject is Acute Rheumatism (rheumatic fever), and the report of the inquiry has been prepared by Dr. Whipham, physician to St. George's Hospital. The invitation was issued in April, 1882, and the last of 655 cases reported on by medical practitioners of the United Kingdom was received in June, 1886.

The largest number of cases in any one occupation was seventy-one in the person of domestic servants, a proportion three times as much as among either labourers or clerks, and eight times that among medical practitioners. The reporter attributes this remarkable preponderance partly to the inordinate consumption of alcoholic drinks—especially malt liquors—and meat by household servants, and partly to insufficient exercise. Eighteen cases (exclusive of ten grocers, probably most of whom also sold intoxicants) were in individuals engaged in either the manufacture or sale of alcoholic liquors.

Excluding cases of children under 14 years of age, and those of whose habits there was no return, there remained 647 cases. These were divided into three groups—viz., teetotalers, temperate, and intemperate. The percentage of cases was, among the teetotalers, 22·77; among the temperate, 70·83; among the intemperate, 5·06. This is in accord with my own experience. In acute rheumatism, or

in several other diseases, the great majority of my cases have been what is commonly called "moderate drinkers." In dyspepsia this has been particularly marked. Inebriates, though they are subjects of the subtle and over-mastering disease of inebriety, comparatively with limited drinkers (*i.e.*, drinkers who do not drink to intoxication) rarely experience (except in delirium tremens and allied affections) the poisoning effects of alcohol in organic disease of the heart, the liver, or the kidneys. The drunkard's concurrent and physical ailments are usually temporary disorders of function. The restricted drinker's are generally chronic functional depravity and permanent physical degradation of tissue.

The average age at the outset of the rheumatic attack was, in abstainers, 18·90 years; in the temperate, 23·98; in the intemperate, 32·37.

The percentage of previous attacks was, with teetotalers, 31·89; with the temperate, 44·95; with the intemperate, 48·38.

The course which the disease ran was peculiar and not what could have been anticipated from the general experience of medical men. The average duration of the whole attack was 23·6 days in intemperate males, as against 25·37 days in temperate, and 27·26 days in abstaining males. The percentage of deaths was more than double among the teetotalers what it was among the temperate (4·66, compared with 2·13). The percentage o

heart complications was in teetotal males 54·41, as against 40·59 in temperate, and 46·87 in intemperate males. These results are indeed astonishing, and seem inconsistent with the percentage of complete recovery, which was 83·63 among teetotal, 73·89 among temperate, and 53·12 among intemperate males. This seeming inconsistency is partially explained by the comparative percentages of partial recoveries, which were 15·15 among male teetotalers, as against 22·34 among temperate, and 38·70 among intemperate males.

While some of these records are favourable to teetotalers, especially as to liability to be attacked by acute rheumatism, others (and these are on very important points) are unfavourable. These latter are the average duration of the illness, the mortality, and the complication of heart affections. But it ought to be borne in mind that the total number of cases (655) is too small to warrant any well-founded conclusions. The data are inadequate, too, in many particulars, and the inquiry altogether was conducted necessarily under conditions too loose to be entitled to be considered as scientifically accurate. My own experience (personally of the disease and professionally of its treatment) has not been in accord with that of the observers who have made returns to the Collective Investigation Committee, especially as regards heart complication. I am also acquainted with practitioners who, like myself, from various causes,

have not reported any cases, and whose returns on so small a total number of cases would substantially alter some of the percentages. For these imperfections of the report on acute rheumatism, neither the investigating committee nor the able reporter are to blame.

A future inquiry, based on the results of that, the report of which is now given in the *British Medical Journal*, may, if the cases reported are numerous enough to warrant any general deductions, justify more reliable conclusions. Such an inquiry ought to embrace only cases occurring between certain future periods, extending over from one to three years, so that all the cases may have similar premises, so far, at least, as season and allied environment are concerned. The treatment should be clearly defined, especially the absence or presence of alcoholic intoxicants, the exact quantities and the form of the drink being given. Whatever the truth, whether accordant or discordant with our preconceived ideas, our duty is to welcome it as soon as it can be clearly set forth, the various contributory factors which may tend to vitiate accurate conclusions having been eliminated. Even on the present incomplete and defective investigation, abstainers may congratulate themselves on the presumption that, if attacked by rheumatic fever, their chances of a complete recovery are greater than if they were moderate drinkers.—*Temperance Record*.

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ALCOHOL IN METROPOLITAN WORKHOUSES.

A PARLIAMENTARY Paper has appeared in reference to the consumption of spirits, wine, and beer in the Metropolitan workhouses, infirmaries, &c. A detailed comparison would be a reprint of the Return, but by adding the sums spent on all kinds of liquors it is possible to offer, in a more compact form, a statement of the relative consumption in 1886 and 1887. As between the different places, and even

the same places, the fluctuations are marked :—

	WORKHOUSES.			
	1886.		1887.	
	s.	d.	s.	d.
Kensington — Mar-				
loes Road ...	0	11	0	9½
Mary Place ...	—	—	—	—
Paddington ...	10	2½	7	6½
Fulham ...	4	4½	4	1½
Chelsea ...	1	10	1	9

	1886.		1887.			1886.		1887.	
	s.	d.	s.	d.		s.	d.	s.	d.
St. George's ...	0	2	0	1 $\frac{1}{4}$	St. Giles's—no In-				
Fulham Road ...	0	1 $\frac{1}{4}$	0	1 $\frac{3}{4}$	firmary.				
Westminster ...	7	1	5	8	Strand—no Infirmary.				
Marylebone ...	0	1 $\frac{1}{4}$	0	1 $\frac{3}{4}$	Holborn ...	8	2 $\frac{3}{4}$	11	5
Hampstead & Isling-					City of London ...	17	10 $\frac{1}{4}$	16	0
ton ...	2	9 $\frac{3}{4}$	4	2 $\frac{1}{2}$	Shoreditch ...	14	3 $\frac{1}{4}$	17	3 $\frac{3}{4}$
St. Pancras ...	7	5	5	5	Bethnal Green—no				
Islington—St. John's					Infirmary.				
Road ...	1	11	5	0	Whitechapel ...	6	4	6	1 $\frac{1}{2}$
Cornwall Road ...	0	1 $\frac{1}{4}$	0	2 $\frac{1}{4}$	St. George's-in-East	16	0 $\frac{3}{4}$	13	2 $\frac{1}{2}$
Hackney ...	6	0	6	5	Stepney — no In-				
St. Giles's ...	2	7 $\frac{1}{2}$	3	3 $\frac{1}{2}$	firmary.				
Strand ...	9	3 $\frac{1}{2}$	11	7 $\frac{1}{2}$	Mile End ...	12	8 $\frac{1}{4}$	11	7
Holborn — Gray's					Poplar—no Infirmary.				
Inn ...	4	0 $\frac{1}{4}$	3	11 $\frac{1}{2}$	St. Saviour's ...	5	10 $\frac{1}{2}$	5	5 $\frac{3}{4}$
City Road ...	4	0 $\frac{1}{2}$	3	0 $\frac{1}{4}$	St. Olave's... ..	13	11 $\frac{1}{2}$	16	1 $\frac{1}{4}$
Mitcham ...	—		—		Lambeth ...	1	1 $\frac{1}{4}$	8	0 $\frac{3}{4}$
City of London ...	20	0 $\frac{3}{4}$	20	8 $\frac{3}{4}$	Wandsworth and				
Shoreditch... ..	0	2	0	2	Clapham ...	2	2	1	9
Bethnal Green ...	1	6 $\frac{1}{4}$	1	8 $\frac{1}{4}$	Camberwell ...	14	3 $\frac{3}{4}$	11	6
Whitechapel ...	0	0 $\frac{3}{4}$	0	0 $\frac{1}{4}$	Greenwich ...	12	5 $\frac{1}{4}$	11	2
St. George's-in-the-					Lewisham—no In-				
East ...	6	8 $\frac{1}{2}$	2	6 $\frac{1}{4}$	firmary.				
Stepney ...	1	8	2	5	Woolwich ...	3	3 $\frac{1}{4}$	4	8
Mile End ...	0	2 $\frac{3}{4}$	0	4 $\frac{3}{4}$					
Poplar ...	1	10 $\frac{1}{2}$	3	0	SCHOOLS.				
St. Saviour's—Christ					Westminster ...	0	1 $\frac{3}{4}$	0	7 $\frac{1}{2}$
Church ...	5	7	6	3 $\frac{1}{2}$	Marylebone ...	14	11	16	9
St. George's ...	3	11	3	10 $\frac{3}{4}$	St. Pancras ...	0	7 $\frac{3}{4}$	0	5 $\frac{1}{2}$
St. Olave's—Parish					Islington ...	0	0 $\frac{1}{4}$	0	0 $\frac{1}{4}$
Street ...	1	7 $\frac{3}{4}$	2	1 $\frac{1}{2}$	Hackney ...	0	5	0	6 $\frac{1}{2}$
Tanner Street ...	1	0 $\frac{1}{2}$	0	10	Strand ...	2	6 $\frac{1}{2}$	1	6 $\frac{1}{4}$
Renfrew Road ...	—		—		Holborn ...	0	1 $\frac{1}{4}$	0	1
Princes Road ...	—		—		Shoreditch... ..	—		—	
Wandsworth and					Bethnal Green ...	0	3 $\frac{3}{4}$	0	6
Clapham... ..	—		0	1	St. George's-in-East	0	4 $\frac{3}{4}$	0	8 $\frac{3}{4}$
Camberwell—Havil					Mile End ...	0	2 $\frac{1}{2}$	0	1 $\frac{3}{4}$
Street ...	3	7 $\frac{1}{2}$	4	8 $\frac{1}{4}$	Lambeth ...	0	7 $\frac{1}{4}$	1	0
Gordon Road ...	0	1 $\frac{1}{4}$	0	1 $\frac{1}{2}$					
Greenwich ...	0	2 $\frac{3}{4}$	0	8 $\frac{1}{2}$	The reports from medical officers				
Lewisham ...	8	5 $\frac{1}{4}$	10	3 $\frac{3}{4}$	are three in number. Mr. S. H.				
Woolwich ...	1	7 $\frac{1}{4}$	0	4 $\frac{3}{4}$	Moore, of Chelsea, considers generally				
INFIRMARIES,					that little alcohol is required, except				
Kensington ...	7	0	5	3	in infirmaries, where it is absolutely				
Paddington ...	—		3	4 $\frac{3}{4}$	necessary. Mr. W. M. Dunlop, of St.				
Fulham ...	14	10 $\frac{1}{2}$	13	10	Pancras, thinks that alcohol is neces-				
Chelsea ...	9	11 $\frac{1}{2}$	7	3 $\frac{3}{4}$	sary in the care and treatment of a				
St. George's ...	0	1 $\frac{1}{4}$	0	1 $\frac{1}{2}$	considerable number of the sick, de-				
Westminster — no					bilitated, and aged poor; while Dr. R.				
Infirmary.					H. Lloyd, of Lambeth, discourages				
Marylebone ...	9	7	14	1 $\frac{1}{2}$	the use of these liquors. It is to be				
St. Pancras ...	12	11 $\frac{1}{2}$	13	2 $\frac{1}{4}$	observed that the Lambeth return is				
Islington ...	13	10	16	1	absolutely blank in the table, appa-				
Hackney ...	7	9 $\frac{3}{4}$	8	3 $\frac{1}{2}$	rently showing that no alcohol of any				
					kind has been used in either of the				
					two workhouses during the two years				
					in question.				

TREATMENT OF ALCOHOLISM BY NUX VOMICA.

By C. ROBERTS, F.R.C.S.

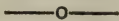
It is very remarkable, seeing how quickly new methods of treatment are adopted in these days, that so little attention has been directed in this country to the treatment of conditions of the body due to the excessive use of wine, spirits, and beer by nux vomica and its preparations, as advocated for some time past by certain Italian, French, and Russian physicians, and incidentally referred to in a note in the *Journal* for January 14. When I was a student, cases of delirium tremens were treated in the surgical wards, and as a dresser I assisted the late Mr. C. Hunter—then house-surgeon—in his original experiments of treating this class of cases by the subcutaneous injection of morphine—a kind of treatment which first led to the use of subcutaneous therapeutics, and which made all the forms of alcoholism of special interest to me. The treatment of the common forms of drunkenness by nux vomica is not by any means new. Many years ago a medical friend used to treat such cases by full doses of the tincture of nux vomica combined with rhubarb, soda, and full doses of carbonate of ammonia, with great success, and I have been equally satisfied with the results of the nux vomica in combination with alkaline solutions of bismuth, hydrocyanic acid, and carbonate of ammonia for the more acute cases, and of the acid solutions of strychnine with iron and quinine in chronic ones. I do not believe, however, with Drs. Popoff, Tolvinski, and Professor Manassein, that strychnine is an antidote to alcohol in the ordinary meaning of the word; and I have been very much disappointed in the few cases in which I have tried the subcutaneous injection of strychnine, as recommended by the Russian physicians. Indeed, I think it is a great error to speak of the various conditions of the digestive and nervous systems resulting from the excessive or injudicious use of alcohol as a specific disease, as they are similar to those which result from the excessive use of other foods,

nervous excitement, and mental and physical excesses of all kinds. The setting apart of the treatment of these diseases as a speciality is one of the greatest evils of the prevailing evil of specialisms, as is obvious by the nonsense which is talked by such specialists as to the hereditary character of the disease, and the incurability of some cases. At present we have no evidence that acquired habits are transmissible from parent to child, and moreover, there are no definite and uniform lesions resulting from the use of alcohol to be transmitted, if such transmission were possible. That the child of a drunken mother should have feeble health is likely enough, as its nutrition has been interfered with; and that the children of intemperate parents should acquire their habits from imitation, and the facilities for falling into them is likely enough also. But this is not heredity, even in the very loosest way in which the word is used by medical men.

As to the incurability of drinking habits and the disease they engender, they are, I think, just as curable and as incurable as rheumatism or gout, diabetes or Bright's disease, or the hundred and one forms of the diseases of the digestive system. The real difficulty in the treatment of alcoholisms arises from the theory that they are of a specific nature, and require specific remedies, and the forgetting, or perhaps I ought to say the ignorance, of the long time the intemperate habits have been going on before they come under the notice of the medical man, and the obstinacy of the patient and his friends in acknowledging their true beginnings. Chronic diseases require chronic treatment; and nervous sensations of a periodic nature, the result of long habits, cannot be cut short by the sudden removal of the stimulus which caused them. They can only be surely eradicated by the substitution of other and better habits; hence the advantage in the treatment of habits of intemperance of all kinds by travelling and intellec-

tual pursuits, and the removal of the patient from all former associations. As a confirmed disease, alcoholism is, I think, more nearly related to gout than any other constitutional condi-

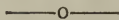
tion, and in its more chronic states it is most successfully treated by iodide of potassium and bark.—*British Medical Journal*, Feb. 4.



MORTALITY OF MODERATE DRINKERS.

SOME light is thrown on the vexed question of the superior healthfulness of abstinence or moderate drinking by recently published returns. The United Kingdom Temperance and General Provident Institution has two sections of lives. The one section consists of abstainers only; the other of non-abstainers, known drunkards being excluded. During the period of 21 years the number of expected deaths in the moderate section was 5,785. Only 164 fewer deaths actually occurred. The expectancy among the abstaining assured was 3,655, and the deaths amounted to 1,076 less. There is, therefore, the enormous deficiency in favour of teetotal survivors beyond expectancy of fully 26 per cent. The teetotal assured have received bonuses, on an average 24 per cent, higher than have accrued to the restricted drinkers. Authentic returns of the time during which members of friendly societies have received benefit tend to show the comparative freedom from incapacitating illness of abstainers. The *Rechabite Directory* for 1887-8 (quoted by the *Wiltshire County Mirror and Express*) gives some interesting comparisons. Between 20 and

60 years of age the Salford Unity of Rechabites (all abstainers) show only 48 weeks, as against 59·6 weeks of the Manchester Unity of Oddfellows, a superiority of 11·6 weeks. Between 60 and 70 years the Rechabites had 50·1 weeks to 62·5 weeks of the Oddfellows, a difference of 12·4 weeks. Grouping these figures together, the Rechabites had 98·1 weeks as against 122·1 weeks of the Oddfellows, a gain of 24 weeks. The abstaining followers of the son of Rechab also come out well compared with the Foresters. From 20 to 70 years of age they suffered from 98 weeks of ill-health, as opposed to 126·3 weeks among the Ancient Order of Foresters; between 70 and 80 years, from 122 weeks as opposed to 148·2 weeks among the Foresters. Collecting these returns together, the Rechabites required financial benefits during 220 weeks, and the Foresters during 274·5 weeks, a difference in favour of the Rechabites of 54·5 weeks. There can be little doubt as to the general tendency of these striking tables in favour of the healthfulness of abstaining temperance. — *British Medical Journal*, March 17.



OPHTHALMOPLÉGIA EXTERNA DUE TO ALCOHOL.

(From the *British Medical Journal*.)

THE common causes of ophthalmoplegia externa are locomotor ataxy, syphilis, diphtheria, and exposure to cold. Though paralysis of the ocular muscles has been observed in chronic alcoholism, I am not aware that the condition to which the term ophthalmoplegia externa is applied has been met with, and its occurrence would seem to show that it may be produced by lesion of the nerves as well as by lesion of the nerve nuclei, alcoholic

paralysis having been proved to depend upon peripheral neuritis.

The following case of chronic alcoholism, with ophthalmoplegia externa, is at present under my care.

J. B., a man, aged fifty, was admitted into the workhouse infirmary on January 25. His relatives stated that he had been drinking heavily for some years; and my friend, Mr. Newton, who attended him before his admission into the workhouse, tells

me that he has been drinking for years, and that the dropping of the eyelids came on about a month ago, the patient having complained for some weeks previously of pains and cramps in his legs. The patient, on admission, was incoherent, constantly asking for drink, and unable to tell where he was, or to give any account of himself. He was unable to raise his eyelids, there being dropping of both eyelids, the left being less affected than the right. There was slight external strabismus of the right eye. He was unable to rotate his eyeballs either upwards or downwards, but could move them readily from side to side. The pupils responded to light and accommodation, but sluggishly, and were small. The knee-jerk was lost on both sides, the plantar reflex increased. There was no paralysis of the legs or arms, but the calf muscles were exquisitely tender on being grasped, and pressure along the course of the posterior tibial nerves elicited great pain. He could point his toes, and there was no marked weakness of the extensors of the wrist or leg. The first metatarsal bone was fractured,

and he said this was due to a chair falling on his foot. The muscles of the legs responded normally to faradism and galvanism. His memory was much affected, and he did not know where he was; he had no knowledge of time or place. When asked if he had been out he always responded in the affirmative, declaring that he had been several miles, and that he had had several glasses of whisky; in fact, he talked of nothing but drink. He took his medicine readily on being told it was whisky, though he thought the taste of it was very peculiar; in fact, he fully illustrated the truth of the proverb, "In vino veritas," his speech betraying his previous habits.

Since his admission the patient has much improved, being now able to open his eyes, and the lids only drooping slightly. There is still considerable restriction of the movements of the eyeballs, but this is daily diminishing. The patient has had no alcohol since admission.

C. W. SUCKLING, M.D., M.R.C.P.

Birmingham.

METHYLAL IN DELIRIUM TREMENS.

An interesting note on the value of methylal, the new hypnotic described in these pages on October 22nd, 1887, in the treatment of delirium tremens, has been contributed to the *Therapeutische Monatshefte* (February) by Professor v. Krafft-Ebing, of Graz. Acting on the advice of Merck, the well-known pharmacist, he employed an aqueous solution of the strength of 1 in 10 as a hypodermic injection; each injection contained 0.1 gramme of methylal, and in this strength produced only slight and transient smarting. Thus administered it was found that the drug only produced its effect after an interval of about two hours; if sleep was not produced after between two and three hours, the injection was repeated. Twenty-one persons were thus treated, about half the number being slight cases; in six instances sleep was induced by 1 injection, in 10 by from 2 to 4, in 3 by from

5 to 8, and in 2 by from 10 to 20; deep, physiological, refreshing sleep, which sometimes lasted twenty hours, was then obtained; in other cases, the patient slept for two or three hours to wake again delirious, but, the treatment being persevered with, the prolonged so-called critical sleep always ensued. Professor v. Krafft-Ebing considers methylal to be the best sedative and hypnotic in delirium tremens which he has ever used; it has no depressing action on the heart, but rather the contrary, and it is followed by no unpleasant after-effects. He considers that it is likely to be useful in insomnia and restlessness due to inanition or cerebral anæmia, but that it is contra-indicated in cases where there is cerebral hyperæmia. The very small doses which were found to be adequate give special importance to this communication.—*British Medical Journal*, March 3.

British Medical Temperance Association.

—o—
President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION. Not less than Five Shillings.

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The following gentlemen have undertaken to act as Hospital Secretaries for the purposes of the Association:—

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Dr. MACKENZIE, Richmond Terrace, Great Victoria Street, Belfast.

NEW MEMBERS.

Dr. GRAHAM, Belfast.
 Dr. McKIE, Belfast.
 Dr. J. H. SINCLAIR, Belfast.

NOTICE.

Members whose subscriptions for the current year have not yet been paid are requested to send them to the Hon. Secretaries during April.

Enfield, March, 1888.

J. J. RIDGE, *Hon. Sec.*

THE SPRING QUARTERLY MEETING

THE quarterly meeting of the Association was held on Tuesday, February 21, at the rooms of the Medical Society of London, the President (Dr. B. W. Richardson, F.R.S.) in the chair.

Dr. ALFRED CARPENTER, J.P., read an interesting and valuable paper on "The Difficulty of Diagnosis between Disease Symptoms and Drug Symptoms," which is given in full amongst our "Original Contributions." After the paper had been read,

Dr. RICHARDSON gave particulars of a case in which he was called in to a lady who was comatose, with low temperature, suffering from pneumonia, who had had brandy administered by her medical attendant, under the opinion that brandy was the sheet-anchor. This was discontinued, and next day she was conscious. Two or three days later she had brandy again, and unconsciousness returned once more, but disappeared when it was left off, and she made a good recovery. Another case was one in which he had seen, in a hospital, with a medical friend, a woman who was supposed to be dying: he had suggested that the coma was that

from the brandy which had been given, one tablespoonful every three hours; on leaving this off she began to recover at once. In another case of typhoid fever, on the twenty-first day, which had been treated without alcohol, on a consultation wine was ordered, and after the third glass he had become drowsy, and then comatose, and died. The late Dr. Wilson Fox told him that he had come to believe that at least 25 per cent. of cases of pneumonia were complicated by the administration of alcohol. He felt that something should be done to bring this matter under the notice of the profession, who went on giving alcohol because they never saw the other side. He thought a challenge should be issued to the profession on the subject.

Dr. DRYSDALE had been disgusted years ago by the treatment of Dr. Todd, and felt convinced that the non-alcoholic treatment was the safest in fevers and inflammatory diseases.

Dr. NORMAN KERR pointed out how alcohol masked symptoms which still continued. He remembered an amusing case of a supposed dying woman, who was really drunk. It was well

that Dr. Carpenter had said that the doctor was not always to blame, but very often the friends, or nurses, or the patient himself; the friends often conceal the fact. It was a very prevalent notion that brandy was a universal panacea.

Dr. EDMUNDS said his experience was entirely in accord with what had been said. There was a material alteration in the practice of the profession, and still more was impending. Many had asked him what substitutes were used by him at the Temperance Hospital; but he did not believe in the alcohol, and so did not want a substitute. There was a very great evil arising from opium and chloral, and such things; it was an evil to have routine administration of morphia injections. He did not now give opium after operations, even such as ovariotomy and amputations. The use of this is one great cause of failure of a union by direct adhesion. Many men give milk largely in typhoid; he thought many cases were killed by excess of it, forming clots in the bowels. He used thin milk gruel.

Dr. RIDGE mentioned the symptom of a black, dry tongue, as one almost entirely due to alcoholic liquors, specially due to port wine containing tannin; the same might be produced by bark. He had had even fatal cases in which this symptom was not present because no alcohol had been given.

Dr. RICHARDSON mentioned hiccup as a common symptom due to brandy, often seen in fatal cases, but he now seldom saw it under other treatment.

Dr. PARAMORE did not think that opium was so bad as alcohol. In some cases, as of old ulcers, opium assisted the healing process; he thought the opium did harm when it interfered with the digestive process.

Dr. MORE spoke of the difficulty of general practitioners when consulting physicians came and ordered alcohol. He had found the mortality of small-pox reduced from 18 to 13 per cent. without alcohol. He hoped the paper would be published in the general medical papers.

Dr. CARPENTER briefly replied.

Dr. NORMAN KERR then read the following paper —

RESULTS OF FOUR AND A-HALF YEARS' WORK AT THE DALRYMPLE HOME.

The Dalrymple Home at Rickmansworth was established as a disinterested experiment for the treatment, under circumstances believed to be most favourable to cure, of the disease of inebriety on sound scientific principles, under the provisions of the Habitual Drunkards Act. Though the privacy of the patients is not interfered with, it is a public-spirited undertaking, carried on with the threefold object of the benefit of the patients, the enlightenment of the community in the fact that inebriety is often a physical disease, and the formation of such an intelligent public opinion as shall secure the adoption of adequate legislation for all classes of inebriates.

Since the opening 115 have passed through the Home. Of these fifty-four entered under the Habitual Drunkards Act, and sixty-one were private patients. Had it not been for the deterrent process of having to declare themselves habitual drunkards before two justices or one metropolitan magistrate, the proportion under the Act would have been much larger. Of those under the Act, eighteen surrendered their freedom for twelve months, one for nine months, three for eight months, thirteen for six months, and nineteen for three months. Of the patients treated privately seventeen entered for twelve months, four for nine months, seventeen for six months, four for four months, and nineteen for three months. Three months is the shortest term for which any one is admitted. It is most encouraging that, sometimes against the opposition of well-meaning but ill-advised friends, who are apt to regard application for admission to a retreat as a stigma, no less than thirty-five inebriates applied to be detained for a period of one year, the minimum which should be aimed at in most cases.

Age.—29 were between 20 and 30 years of age, 54 between 30 and 40, 26 between 40 and 50, 6 between 50 and 60. The greatest liability, there-

fore, was between 30 and 40, the average of all the admissions being 35 years.

Previous residence.—93 came from England, 42 of these being from London and 51 from the provinces. Scotland was represented by 5, Ireland by 7. There were 2 from France, and 1 each from Switzerland, Cape Colony, Australia, New Zealand, United States of America, Canada, South America, and India.

Religion.—110 were Protestants, and 5 Roman Catholics.

Education.—27 had been at college; 68 had a good, 20 a fairly good, and 4 an elementary education.

Marriage.—56 were married, 52 single, and 7 widowed.

Occupation.—4 were retired military officers, 9 medical practitioners, 1 student of medicine, 2 barristers, 3 solicitors, 3 tutors, 9 civil servants, 3 clergymen, 1 publisher, 1 officer in the marine merchant service, 2 accountants, 1 auctioneer, 2 stockbrokers, 1 librarian, 17 clerks, 2 land agents, 1 underwriter, 4 engineers, 2 cotton manufacturers, 1 builder, 1 shopfitter, 2 drapers, 9 merchants, 2 farmers, 4 commercial travellers, and 28 gentlemen of no occupation.

Family history.—Of insanity in 10 cases, of inebriety in 20 cases.

Associated habits.—101 used tobacco, 2 chloral and tobacco, 2 morphia, 3 opium or chlorodyne and tobacco.

Drinking habit.—Regular, 73; periodical, 42.

Temperament.—49 nervous, 31 sanguine, 13 nervo-sanguine, 22 phlegmatic.

Frequency of periods.—Every week, 5; every two weeks, 2; every three weeks, 4; every four weeks, 4; every six weeks, 5; every two months, 8; every three months, 10; very irregular, 11.

Average time of addiction.—8½ years.

Delirium tremens.—Patients who have had one attack 16; two attacks, 7; three attacks, 5; five attacks, 1.

Ordinary Habit.—Social, 102; solitary, 13.

Kind of liquor used.—All spirits, 22; whisky, 31; brandy, 14; gin, 5; wine, 2; wine and beer, 3; beer, 5; beer and spirits, 25; various, 8.

Previously in other homes.—Once, 22 patients; twice, 3; in insane asylum, 1.

Exciting cause.—Sociability, 44. Nerve shock—domestic trouble, 13; business worry, 11; financial loss, 2. No occupation, 12.

Influence of occupation.—Commercial travellers, 4; wine merchants, 2; cattle salesmen, 1; stock exchange, 2; colonial life, 2; army life, 2; overwork, 4; ill-health, 6; injury, 6; not assigned, 4.

Complicatory diseases.—Phthisis, 2; pulmonary congestion, 1; asthma, 2; chronic rheumatism, 3; gout, 4; syphilis, 8; dyspepsia, 5; general debility, 3; amaurosis, 2; partial alcoholic paralysis, 2; phosphatic calculi, 1; alcoholic convulsions, 2; cirrhosis, 1; intestinal catarrh, 1; hæmorrhoids, habitual constipation, 1; eczema, 1.

Occasion of discharge.—Efflux of time, 103; illness, 4; unsuitable for treatment, 8.

Term of residence.—Twelve months and longer, 26; nine months, 3; eight months, 5; six months, 25; five months, 3; four months, 5; three months, 44; two months, 1; one and a-half month, 1; one month, 2. The average length of period under treatment was 7 months.

After history.—Doing well, 52; improved, 4; not improved, 36; insane, 1; died, 4; not heard from, 18. There were 11 readmissions.

The treatment pursued has been strict abstinence from all intoxicating liquors; medicinal remedies; hygienic measures; intellectual, moral, and religious influences. A special study has been made of the peculiarities of each case, and the medical superintendent, Mr. R. Welch Branthwaite, has successfully induced many of the patients to find occupation at printing, carpentering, scientific observation, photography, &c. For the first three months in residence the patients are not allowed outside the grounds.

These records confirm my own experience in private practice—(1) that inebriety is often a disease amenable to scientific treatment; (2) that the sudden withdrawal of intoxicants is quite safe.

A short discussion took place, and the thanks of the Association were | awarded to the readers of both papers.

NORTH OF IRELAND BRANCH.

THE annual meeting of this branch was held in the rooms of the Irish Temperance League, Belfast, on 26th January. The President (Brigade-Surgeon M'Farland) occupied the chair. Brigade-Surgeon M'Farland was re-elected President, and Dr. W. G. Mackenzie, Honorary Secretary and Treasurer for the ensuing year. Dr. Thompson, J.P., Anahilt; Dr. J. Dysart M'Caw, Portglenone; Dr. Dickson, J.P., Ballynahinch; Dr. Taggart, Antrim; Dr. Elliott, Derry; Dr. H. M. Johnston, Stranorlar, Donegal, were elected Vice-Presidents. After

a discussion as to the best means of securing the interest and co-operation of those members of the profession who do not now sympathise with the principles of personal abstinence, in which Drs. Barnett (late H.M. Indian Army), Arnold, Osborne, Scott, Sinclair, and the President took part, it was resolved that the Secretary be instructed to send a circular to all the members urging upon them to bring the claims of the Association before the medical brethren in their various districts.—*British Medical Journal*.

Notes and Extracts.

ALCOHOL AND PEPSINE.—It is still a disputed point whether alcohol prevents pepsine from exerting its property of converting albumens into peptones. Nessler states that pepsine is not soluble in strong alcohol, and that if the percentage of alcohol is above 20, the pepsine loses its activity, and this the more completely the more concentrated is the alcoholic solution.—*Lancet*.

IODISED WINE.—According to M. Barnouvin, a litre of iodised wine may be made by adding to the necessary quantity of any wine a solution of from forty to fifty centigrammes of iodine dissolved in fifteen grammes of alcohol. He holds that the preparation of iodised wine by fermentation offers no real advantages, and he states that wines containing a small percentage only of tannin are very suitable for the above-mentioned method of manufacture.—*Lancet*.

DELIBERATE SUICIDE BY ALCOHOL.—A man in Warsaw determined to commit suicide by drinking spirits. He began at three p.m., and every hour wrote down his sensations. Thus

at six p.m. he wrote [that he had "pleasant feeling of intoxication," and at nine that he could "scarcely write," adding "the end will soon come." About midnight he lost all consciousness, and shortly afterwards expired. The medical man who was summoned found all the empty bottles and the memoranda, but the patient was too near death for any successful effort to save him.—*Lancet*.

ACCIDENT INSURANCE FOR TEETOTALERS.—We have received an official circular of the "Ocean" Accident Company, one of the distinguishing features of which is that "Total Abstiners are insured at 10 per cent. less than the published rates;" and we are informed that the same rule has been adopted by the following accident companies:—Lancashire and Yorkshire, Scottish Temperance, Northern Accident, Imperial Union, and Scottish Employment Liability Company. One or two of these do not make the deduction from the first year's premium, but all of them allow it upon renewals; and the London, Edinburgh, and Glasgow Company

allows a reduction of $7\frac{1}{2}$ per cent. to abstaining insurers.

THE CHICAGO TEMPERANCE HOSPITAL.—The annual meeting of the Board of Trustees occurred on Wednesday, 28th December. The annual report of the various officers showed a hopeful outlook, both financially and as demonstrating the great principle for which it was founded. Statistics show that hospitals, both in America and Europe, do not, on the average, receive from patients more than one-fourth their running expenses. It is a gratifying fact that thus early in its history our hospital has exceeded this proportion, thus showing a demand for our work. Frequently we have been obliged to refuse applicants because we had no accommodation for them. That about 5,000 dollars have been contributed with very little solicitation, shows that the hospital is winning a warm place in the hearts of the people.—*Union Signal*.

THE SECLUSION OF NARCOTIC HABITUÉS.—The treatment of those unhappy beings who have given themselves up to indulgence in narcotics by their forcible retention in special institutions was recently very earnestly advocated, by Dr. J. B. Mathison, before the American Association for the Cure of Inebriates. Victims of the opium habit, or such as have yielded to the seductive influences of chloral or cocaine, are not suitable cases for treatment either in general hospitals or asylums for the insane; and their appropriate treatment can only be carried out successfully in establishments specially designed for their reception and cure. In this connection the *Medical Record* of New York commends a suggestion of Dr. Mathison to the effect that such an institution should be started by private beneficence, and that a certain number of paying patients should be admitted to it, while the profits derived therefrom should go to defray the expenses attendant on the treatment of others received without payment.—*Medical Press*.

ALCOHOLIC AMBLYOPIA IN TURKEY.—At the Ophthalmological Society

(Jan. 26) Dr. Van Millingen read a paper on Toxic Amblyopia. During fifteen years' experience in Turkey and the Levant he had not met with a single instance of alcoholic or tobacco amblyopia in a Turk, male or female. As regarded the tobacco, this could not be attributed to the kind smoked, for Turkish men and women used such a large quantity that the amount of nicotine would correspond with the amount in the smaller quantity of stronger tobacco used in this country. He therefore attributed the exemption to the mode of smoking, and believed that poisonous symptoms resulted from the juice of the tobacco being allowed to come into contact with the mucous membrane of the mouth in a moist state. Turkish women did not drink at all; some of the men drank *raki* to excess, but he had never known an instance of alcoholic amblyopia from this cause. On the other hand, he had met with eight instances of alcoholic and two of tobacco amblyopia in foreigners resident in Turkey.

WAVES OF TEMPERANCE.—In a recent address, Dr. T. D. Crothers referred to the various temperance revivals in America and England as physiological cyclones. Enthusiasts believed on each occasion that the power and influence of alcohol were destroyed for ever. Yet as each wave of enthusiasm receded, it was seen that intemperance flourished apace. The same ebb and flow of the tide of temperance is still witnessed. As the whirlwind of revolution clears the air and prepares the way for the advance of truth, all these revivals and missions have directed the attention of the thoughtful to the study of the whole subject. The voice of science is beginning to teach that inebriety is a disease, and must be treated accordingly. Four medical societies and one quarterly journal are devoted exclusively to the study of the laws which govern inebriety. This increasing recognition of the disease aspect of intemperance is only the re-affirmation of a truth urged centuries ago, but the times were not then propitious for its reception and growth.—*British Medical Journal*, March 24.

DIET IN DISEASES OF THE SKIN.—

This is of course a subject about which the physician is always expected by his patient, who comes to him with some skin disease, to furnish timely advice. Indeed, the questions of "What may I eat?" and "What shall I avoid?" are regarded perhaps as matters of greater moment by the patient than the drugs which are prescribed for his complaint. Some useful remarks upon the influence of diet in skin diseases were published by Dr. J. C. White, in a contribution to the American Dermatological Society last year, in which he avers that butter, fish, and meat are harmless. With regard, however, to the butter, it must be fresh, for when it is cooked its nature is changed, and it may become indigestible and injurious. Alcohol is emphatically condemned by the author as tending to aggravate the intensity of the course of most inflammatory affections of the skin. Again, lager beer must be avoided, inasmuch as it is apt to produce acne about the lower part of the face, especially in women. Acid fruits are liable to aggravate eczema, and strawberries have a similar effect. Many persons, however, will be probably glad to know that nothing has yet been proved against oranges and lemons. Apples, on the other hand, may produce an acneiform efflorescence about the mouth, and also in children an eruption resembling "impetigo contagiosa." Nuts, says the author, especially walnuts, sometimes irritate the mucous membrane of the mouth, or cause a species of herpes labialis, or even acne. Lastly, he has seen one case in which the smallest morsel of roasted turkey caused an urticarial eruption of a severe form.—*Medical Press.*

STRYCHNINE IN ALCOHOLISM.—

The good results obtained from strychnine in dipsomania by N. M. Popoff, V. A. Manassein, Partzevsky, Tolvinsky, and Zavadsky, have induced Dr. S. Jaroshevsky (*Meditsinskoi Obozrenië*, No. 4, 1887, p. 332) to undertake an experimental inquiry into the antagonism between the alkaloid and alcohol.

From experiments made on dogs Dr. Jaroshevsky feels justified in drawing the following conclusions: 1. Strychnine undoubtedly neutralises the intoxicating and narcotic effects of alcohol. 2. It enables large quantities of alcohol to be taken for a considerable stretch of time without causing the usual organic lesions which follow the use of alcohol alone. 3. There are, however, limits beyond which the alkaloid itself becomes injurious to the organism. 4. Therapeutically, strychnine should be used in all forms of alcoholism. 5. It may be regarded as a powerful prophylactic against alcoholism.—*Lancet.* In a letter to the *Provincial Medical Journal* for March, Dr. C. K. Illingworth, of Clayton-le-Moors, says:—"As to the value of the treatment of chronic alcoholism by strychnia, there can, I think, be no doubt; but to affirm, as some authorities do, that the one is antidotal to the other, is to put a wrong construction upon the effects observed. In all chronic cases of this very common complaint the blood is reduced in fibrin and hæmoglobin, as is shown by the cadaverous and bloated appearance of every drunkard; and this is to be explained by the deleterious and well-known action of alcohol upon the liver. In addition to this, the effect of the drug is to stimulate and dilate the peripheral capillary circulation. By continual stimulation of the circulation, and consequent continual dilatation of the peripheral capillaries, debility of their walls, and delayed peripheral circulation are induced, with consequent drain of fluids from the central capillary system. Hence the continual thirst of a confirmed drunkard. The more he drinks, the more intense becomes his desire to drink yet again; not so much, or altogether, because he likes the taste, as because his throat is dry and parched. Herein lies the value of strychnia. By its powerful tonic action on the peripheral and central capillary walls, it lessens the "circulatory cavern" the drunkard in vain tries to fill, and thus brings about a healthy, because a moderate, desire for liquids.

THE
MEDICAL TEMPERANCE JOURNAL.

July, 1888.

Original Contributions.

THE ALCOHOL HABIT AND MEDICAL AUTHORITY.*

By HENRY W. WILLIAMS, M.D., C.M.

THE common opinion amongst the people is that the profession of medicine considers the use of alcohol as a beverage a necessity, or, if not an absolute necessity, a harmless luxury, unless it be taken in an immoderate degree.

I propose in this paper to challenge that opinion, and I seize the present moment because just at this time a re-declaration of opinion is being taken on the subject by this society. It would indeed be a strange fact, a strange perversion of all that is good in a noble profession, if the commonly accepted view were correct; and if the great profession of medicine gave such easy countenance to the use in daily life, amongst all classes of the community, young, middle-aged and old, rich and poor, learned and ignorant, of a substance which is now employed in really moderate quantities compared with its former use, kills in England and Wales alone not fewer than 1,000 persons a week, or 52,000 a year, a number exceeding in fatality that from any other disease, consumption of the lungs not excepted. But is the opinion so commonly accepted the true opinion? that is the question I am about to raise for discussion. There are two ways of answering this question: one by the personal knowledge which a member of the profession may possess by long association with it, another by collection of facts and opinions from either the words or the works of the representatives of medicine. If I answered by the first method I should at once say that the common view is entirely wrong. I do not dispute that there are reckless men in medicine who speak loosely on

* Read at the Annual Meeting of the British Medical Temperance Association, May 30, 1888.

the subject: there may be a few who speak warmly in the affirmative, for the *bon vivant* is not yet dead even in physic; but the mass of the profession, according to my experience and knowledge of it, is inclined to speak on the matter with the utmost caution, and with a leaning to the newer idea, namely, that the daily use of intoxicating drinks is injurious to the community, and ought to be avoided on all sides. I do not dwell on this answer further, because it is the expression of an individual experience, and some might say of an experience which is tinged by personal feeling; I prefer to come to the second mode of answer, based on collection of facts and opinions.

In the year 1839 a memorial was drawn up for signature by the profession in the following terms:—

“An opinion handed down from rude and ignorant times, and imbibed by Englishmen from their youth, has become very general, that the habitual use of some portion of alcoholic drink; as of wine, beer, or spirit, is beneficial to health, and even necessary to those who are subjected to habitual labour. Anatomy, physiology, and the experience of all ages and countries, when properly examined, must satisfy every mind well informed in medical science, that the above opinion is altogether erroneous. Man, in ordinary health, like other animals, requires not any such stimulants, and cannot be benefited by the habitual employment of any quantity of them, large or small; nor will their use during his lifetime increase the aggregate amount of his labour. In whatever quantity they are employed, they will rather tend to diminish it. When he is in a state of temporary debility from illness or other causes, a temporary use of them, as of other stimulant medicines, may be desirable; but as soon as he is raised to his natural standard of health, a continuance of their use can do no good to him, even in the most moderate quantities; while larger quantities (yet such as by many persons are thought moderate) do, sooner or later, prove injurious to the human constitution, without any exceptions. It is my opinion that the above statement is substantially correct.”

This document was signed by Sir Benjamin Brodie, Dr. W. F. Chambers, Sir James Clarke, Bransby Cooper, Dr. D. Davis, Sir J. Eyre, Dr. A. Ferguson, Mason Good, Dr. Marshall Hall, Dr. J. Hope, C. A. Key, Dr. R. Lee, Herbert Mayo, R. Partridge, Richard Quain, Dr. A. T. Thomson, R. Travers, Drs. Andrew and Alexander Ure, and in all by seventy-eight men of distinction in the profession.

It would be quite impossible to find any list of names in the profession of medicine at that time of greater weight or influence in England. They are the names of the cream of English medicine and art.

In 1847 a second memorial was prepared by John Dunlop, Esq., and was signed by upwards of 2,000 Physicians and Surgeons. Their testimony was as follows:—

“We, the undersigned, are of opinion:—1st. That a very large proportion of human misery, including poverty, disease, and crime, is induced by the use of alcoholic or fermented liquors as beverages. 2nd.—That the most perfect health is compatible with total abstinence from all such intoxicating beverages, whether in the form of ardent spirits, or as wine, beer, ale, porter, cyder, &c., &c. 3rd.—That persons accustomed to such drinks may, with perfect safety, discontinue them entirely, either at once, or gradually, after a short time. 4th.—That total and universal abstinence from alcoholic liquors and beverages of all sorts would greatly contribute to the health, the prosperity, the morality, and the happiness of the human race.”

Among the names appended to this declaration in London were those of Dr. Addison, Dr. Niel Arnot, J. Moncrieff Arnott, Esq., Dr. B. G. Babington, Dr. Beattie, Sir J. Risdon Bennett, Dr. A. Billing, Dr. John Bostock, Dr. Golding Bird, Dr. Black, Dr. R. Bright, W. Bowman, Esq., Sir B. C. Brodie, Sir W. Burnett, Dr. G. Budd, Sir G. Burrows, Dr. W. B. Carpenter, Dr. W. F. Chambers, Sir J. Clark, Dr. Copland, Sir J. Eyre, Dr. A. Farre, Dr. Robert Ferguson, Sir William Ferguson, Sir J. Forbes, R. D. Grainger, Esq., Dr. Guy, Dr. Marshall Hall, Sir H. Holland, Sir Aston Key, F. Kiernan, Esq., W. B. Langmore, Esq., Dr. P. M. Latham, Sir J. McGregor, Dr. J. A. Paris, Dr. Peacock, Dr. Pereira, Dr. Pettigrew, Dr. Prout, Dr. Toynbee, Dr. Wilks, Erasmus Wilson, Esq., Dr. Forbes Winslow, and many others of equal note. In the provinces the following signed with many others:—Professor Adams, Dr. Aitken, Professor Alison, Dr. S. Begbie, W. Braithwaite, Esq., Dr. Buchanan, Dr. P. Crampton, Professor Curran, Dr. Keith, Sir H. Marsh, Dr. Q. E. Paget, Professor Pirrie, Professor J. Reid, Professor Syme, T. P. Teale, Esq., Dr. Andrew Wood, Dr. Wylie, &c., &c.

In 1871 a third memorial was issued in the following words:—

“As it is believed that the inconsiderate prescription of large quantities of alcoholic liquids by medical men for their patients has given rise, in many instances, to the formation of intemperate habits, the undersigned, while unable to abandon the use of alcohol in the treatment of certain cases of disease, are yet of opinion that no medical practitioner should prescribe it without a sense of grave responsibility. They believe that alcohol, in whatever form, should be prescribed with as much care as any powerful drug, and that the directions for its use should be so framed as not to be interpreted as a sanction for excess, or necessarily for the continuance of its use when the occasion is past. They are

also of opinion that many people immensely exaggerate the value of alcohol as an article of diet, and, since no class of men see so much of its ill effects, and possess such power to restrain its abuse, as members of their own profession, they hold that every medical practitioner is bound to exert his utmost influence to inculcate habits of great moderation in the use of alcoholic liquids.

"Being also firmly convinced that the great amount of drinking of alcoholic liquors among the working classes of this country is one of the greatest evils of the day, destroying—more than anything else—the health, happiness, and welfare of those classes, and neutralising to a large extent the great industrial prosperity which Providence has placed within the reach of this nation, the undersigned would gladly support any wise legislation which would tend to restrict, within proper limits, the use of alcoholic beverages, and gradually introduce habits of temperance."

This third declaration was signed by most consulting and hospital physicians and surgeons, and many other leading practitioners of the day. It is now seventeen years since the last declaration, forty-one years since the second, and forty-nine since the first, and during this long period a vast amount of experience has accumulated both as to the effects of alcohol, and also the practice of abstinence, so that there should be no difficulty in determining whether the above declarations are correct or not. It has seemed to the Council of the British Medical Temperance Association highly desirable, both for the credit of the profession and the advantage of the public, that these declarations should be reviewed, and their statements confirmed or denied, according to the judgment of the medical authorities of the present day. It was thought unnecessary on this occasion to invite any new declaration; the old ones were therefore sent forth with a request for endorsement to more than 2,000 members of the profession, nearly all holding hospital appointments, and of well-known reputation in the ranks of medicine—a request which has been responded to at present by 553 gentlemen. Nearly all of these have endorsed all three of the declarations, but some endorse only one or two of them. Taking these declarations separately the result is as follows:—

I.	has been signed by	517
II.	"	526
III.	"	537
I.	alone has been signed by	1
II.	"	5
III.	"	22
I. & II.	only have been signed by	10
I. & III.	"	5
II. & III.	"	9

Four sign all three with slight exception to one or two phrases.

Names are still coming in, and the final list will therefore be larger than the above.

Several of the signatories have made observations respecting the matters referred to in the declarations. One cannot sign declaration III., "because it seems absurd to say that alcohol needs to be prescribed with *as much care as any powerful drug.*" It is his opinion that such extreme care is not necessary, nor from what he knows does he think that the majority of those who prescribe it act—no matter how strong their opinions—as if they thought so.

Four others cannot endorse the same declaration, which says "while unable to abandon the use of alcohol in certain cases;" because, as one says, "during the last thirteen years he has not found occasion to prescribe it in a single instance, though for the last five years he has treated 10,000 different persons every year, with every sort of disease ordinarily seen." Another, "because he believes that in all cases it may be safely and successfully dispensed with." Two or three object to the paragraph which attributes some intemperance to the medical prescription of alcohol, one considering it as a libel on the profession; while on the other hand, several strongly endorse this particular declaration to the exclusion of others. One writes that "the value of temperance to health and long life, to happiness, and the capacity for work, to a just civilization and the development of the race, is no longer open to doubt;" but he objects to sign an abstract declaration, overlooking apparently the influence which his very sound opinion may exercise over a far wider sphere by means of a public statement. One gentleman directs attention to a very crying evil likely to work great mischief, namely the sale by chemists of highly alcoholic nostrums, often stronger than the common spirituous liquors, and a source of great danger to individuals who take them in ignorance of their true nature. In conclusion, on this head it cannot be doubted that of the gentlemen to whom the declarations were sent many have failed to return them through accident or press of occupation, nevertheless the Council feels that the response from so large a number of eminent and leading hospital physicians, and surgeons, and from many others, equally capable of forming a sound opinion, though engaged in general or other practice, is very gratifying and significant. The plain fact is now thoroughly recognised, that alcoholic liquors are not necessary but rather detrimental to healthy individuals, and therefore the evils which all acknowledge and deplore, which spring from the artificial and unnecessary acquisition of an appetite for alcohol, might be avoided by

the rational plan of total abstinence from alcoholic beverages. It is recognised that all the advantages (if any) of alcohol as a drug can be obtained by administering it as such, and by restoring it to its place on the shelves of the chemist's shop, to be used for what it may be ordered, and valued at what it may be worth.

Thus, during four decades there has been an expression of medical opinion in the combined form from medical authorities, entirely opposed to the common belief, and in support of the view that alcohol as a beverage is opposed to the best and most vital interests of mankind.

I now proceed a step further. Our President, in a late address delivered at the Portman Rooms, introduced very briefly a list of opinions in detail from eminent medical authorities on this subject. Unfortunately he had not time to go into such detail on this matter as his audience desired, and there was a general feeling of disappointment that he cut this part of his subject so short. I propose therefore with his permission to deal with this important matter at some length. It becomes much stronger the more it is studied, and it is singularly *apropos* as supplementary to the recent action of our society. I commence by citing the opinion of Dr. Thornton, the elegant author, in the early part of this century, of the famous Medical Extracts. Dr. Thornton writes as follows:—"Let us consider for a moment, the stimulating or exciting power of *wine*. When a depressed man is insufficiently excited with the *natural stimuli*, and rises not, suppose above 30 degrees in his excitement, a glass carries him up to 32 degrees, another to 34 degrees, and so forth, till after five glasses he is carried up to 40 degrees; he then finds himself well and vigorous in all his functions. But still we are not so flimsily made as not to bear a little of what is either *too much* or *too little*. Suppose he then takes five glasses more, and consequently is raised to 50 degrees. As his spirits, his intellectual, and all his other functions, were low while his excitement remained at 40 degrees, so are they all proportionally exalted by the time that his excitement is elevated to 50 degrees. Let him still go on, and his intellectual functions will rise still higher: he will now display the full extent of his genius, and his passions and emotions, of whatever kind they may be. If he goes on, *how will the appearance be reversed?* The *hero* soon shrinks into a mere brute. He falls off in both his intellectual and corporeal functions: his tongue, his feet, his eyes, his memory, fail him; and at last, deprived of all powers of motion and sense, he sinks into an inanimate sleep."

Spirits, says the Abbé Reynal, were the gift the most fatal the old world ever made to the new. It was soon observed that it

disturbed their domestic peace, deprived them of their judgment, and made them furious. In vain did some Frenchmen expostulate with them, and endeavour to make them ashamed of *these excesses*. "It is you," answered they, "who have taught us to drink this liquor, and we cannot do without it. You have done the mischief, and it admits of no remedy." Were the pleasure of the palate lasting, says Cornaro, there would be some excuse for inebriety, but it is so transitory that there is scarce any distinguishing between the beginning and the ending. Whereas the diseases it produces are very durable. This fact is well known in the distilleries, where the swine which are fattened by the spirituous sediments of barrels all acquire diseased livers. Mark what happens to that man who drinks much wine, if he has not been habituated to so violent and exhausting a stimulus. He loses the use both of his limbs and of his understanding. He becomes a temporary idiot, and has a temporary stroke of palsy! And though he slowly recovers after some hours, is it not reasonable to conclude, that a frequent repetition of so powerful a poison must at length permanently affect him? If a person accidentally becomes intoxicated by eating a few mushrooms of a peculiar kind, a general alarm is excited, and he is said to be poisoned: but so familiarised are we to the intoxicated from vinous spirits, that it occasions merriment rather than alarm. The story of Prometheus seems to have been invented by physicians in those ancient times, when all things were clothed in hieroglyphic or in fable. Prometheus was painted as stealing fire from heaven, which might well represent the inflammable spirit produced by fermentation: which may be said to animate or enliven the "man of clay." Whence the conquest of Bacchus, and heedless mirth and noise of his devotees. But the after punishment of those who steal this accursed fire, is a vulture gnawing the liver, which well allegorizes the poor inebriate lingering for years under painful hepatic diseases. Drinking is undoubtedly the most miserable refuge from misfortune. It is the most broken of all reeds. This solace is truly short-lived: when over, the spirits commonly sink as much below their usual tone as they had been before raised above it. Hence a repetition of the dose becomes necessary, and every fresh dose makes way for another, till the miserable wretch is rendered a slave to the bottle, and at length falls a sacrifice to what, at first, perhaps, was taken only as a medicine. No man is so dejected as the drunkard when the debauch is over. Hence it is, that those who have the greatest flow of spirits while the glass circulates freely, are of all others the most hipped when sober. It may be pleasant to get drunk, but the next day is a day of uneasiness, and the third ought to be a day of repentance. To those who drink to

drive away care, I would recommend the careful perusal of the following lines—

‘ Unhappy man, whom sorrow thus and rage,
Two different ills, alternately engage.
Who drinks, alas ! but to forget,—nor sees
That melancholy, sloth, severe disease,
Memory confused, and interrupted thought,
Death’s harbingers, lie latent in the draught,
And in the flowers that wreath the sparkling bowl
Fell adders hiss, and poisonous serpents roll.”

Dr. Samuel L. Metcalfe, the distinguished author of “Caloric and Vital Agencies,” writes respecting alcoholic beverages:—“Nor can there be a doubt, that, when taken in large quantities, they are absorbed into the blood, and conveyed to the brain, where, by their narcotic influence, they diminish its voluntary command over the function of respiration, as shown by the coldness of the extremities, languor of the circulation, giddiness, stupor, insensibility, loss of appetite, nausea, tremors, and general prostration of strength, that characterise intoxication, which literally means the action of a poison. It is therefore not surprising that their habitual use induces delirium, paralysis, apoplexy, epilepsy, madness, and a frightful train of physical maladies, especially in hot climates. For it is certain that they may be consumed in much larger quantities in cold than in warm and tropical countries, without causing intoxication or disease. And this proves that they afford a certain amount of caloric either by uniting with the fluids of the body, or by increasing respiration, in the same way that animal food and fat produce this effect. Hence it is, that when the energies of life are exhausted, as in the latter stages of typhus, cholera, tetanus, and other low forms of disease, they are often revived by the judicious employment of brandy, ether, wine, &c. Yet there cannot be a rational doubt, that the abuse of these articles has caused a greater amount of physical and moral suffering than war, famine, pestilence, or any other single calamity. If, by virtue of a strong constitution, a few drunkards have arrived at old age, millions are destroyed in the prime of life by intemperance. That intoxicating liquors are not sanctioned by nature, would appear from the fact that they are generally disagreeable to the unvitiated taste of the lower animals and of young children; while it is notorious that their constant use diminishes the appetite of adults for wholesome food. The sooner we begin to assist nature by stimulants, the sooner she leaves us a prey to artificial excitement, which is seldom beneficial, except when the powers of life are reduced below par. If the fifty millions sterling” (this was written in 1843) “annually expended for spirits, wine, and malt liquors, in Great Britain, were rightly employed in the promotion

of a sound physical and moral education of the lower classes, pauperism would soon disappear; while vast multitudes would be rescued from crime, madness, and premature death."

Dr. Erasmus Darwin, author of "*Zoonomia, or the Laws of Organic Life*," states "that when the expediency of laying a further tax on the distillation of spirituous liquors from grain was canvassed before the House of Commons some years ago, it was said of the distillers, with great truth, 'They take the bread from the people and convert it into poison.' Yet is this manufactory of disease permitted to continue, as appears by its paying into the treasury above £900,000, nearly a million of money, annually:" this was written in 1800. And thus, under the name of rum, brandy, gin, whisky, usquebaugh, wine, cyder, beer and porter, alcohol is become the bane of the Christian world, as opium of the Mahometan.

Dr. Hope, author of the first "*Systematic Treatise on Diseases of the Heart*," received, in 1840, when the first declaration had been signed, a letter from Mr. Barker, of Bedford, inquiring whether he had affixed his name to a teetotal paper, which was circulated with the signatures of eighty physicians and surgeons, including most of those of any eminence. Mr. Barker's letter was as follows:—

"BEDFORD, September 11, 1840.

"DEAR SIR,—I trust you will pardon the liberty I now take in inquiring if you have given your signature to a decidedly 'tee-total' certificate, discountenancing the use, however moderate, of any stimulating liquor whatever? Observing the printed name of one who ranks so high in our profession as yourself appended to a certificate of this kind, and knowing that some of the signatures have been procured under false pretences, I have determined on thus troubling you. May I ask the favour of an answer.

"I am, dear sir, yours most respectfully,

"T. HERBERT BARKER."

To this letter Dr. Hope returned the following answer:—

"13, Lower Seymour Street, Portman Square,

"16th October, 1840.

"MY DEAR SIR,—It is quite true that I appended my name to the document with which you have favoured me. After having been for twenty years in almost constant official connection with six of the largest hospitals in this country and abroad, during which time I have habitually made statistical, and often numerical, observations with much care, I have a strong conviction that drinking is the grand curse of this country; and more especially the notion, almost universally prevalent amongst the lower classes, that a *proportion* of stimulant liquors is *indispensable* for the maintenance of health and strength, under which impression they take from two to four pints of ale per day, and think that moderation. It is admitted on all hands that the old 'temperance societies' have failed signally, as the drunkard cannot partially abstain, and the sober cannot distinguish the line of demarcation between moderation and excess. I have especially studied the diseases and statistics of foreign nations, barbarous and otherwise, who have never had access to stimulant liquors, and I find their diseases almost as simple as those of animals, and their strength

and endurance, under favourable circumstances of climate, food and clothing, to be equal, and often superior, to the best specimens in this country. Add to this, the result of Sir E. Parry's observations, those of the Americans, &c., and it is, I think, demonstrated that stimulant liquors of any kind, and in any quantity, are unnecessary (except as medicines under especial circumstances of delicacy or disease) for the maintenance of health and strength. The disease and destitution induced by drinking are not more referrible to the direct effects of the drink than to the 'deficiency of wholesome' food, entailed by the expenditure on what is called a very moderate allowance of drink—say two pints a day. You will be aware of this, as you have probably studied the statistics of the lower classes, and compared their dietary with that of the army and parish poor-houses.

"I remain, my dear Sir, yours faithfully,

"J. HOPE."

Dr. (afterwards Sir) H. Holland gives the following evidence:—
 "We have not less assurance that wine is, in numerous cases, habitually injurious in relation both to the digestive organs and to the functions of the brain. And it may be affirmed generally (as a point wholly apart from the enormous abuse of spirits among the lower orders) that the use of wine is far too large for any real necessity or utility in the classes which consume it in this country. Modern custom has abridged the excess, but much remains to be done before the habit is brought down to a salutary level; and medical practice is greatly too indulgent on this point to the weakness of those with whom it deals. It is the part of every wise man, once at least in life, to make trial of the effect of leaving off wine altogether; and this even without the suggestion of actual malady. To obtain them (the results) fairly, the abandonment must be complete for a time—a measure of no risk even where the change is greatest." The authorities quoted above at some length are all, as it will be seen, strongly in favour of the views expressed in the three memorials which have been so largely signed. They come nearest to the spirit of the memorialists as well as in details. But these by no means exhaust the evidence that is adducible, and indeed there is such a mass of it that the difficulty is in knowing where to stop in collecting the evidence. I will quote briefly a few of these authorities rather by the epigram than essay. In the last century the famous Dr. Cheyne, whose reputation as a pioneer of the then budding hygienic school of medicine has not in our days been fully understood, was one of the most powerful advocates. I quote an observation from him because of its piquant truth. Cheyne observes that when men are sick, that is to say when they are most enfeebled and helpless, they are ordered by their physicians to leave off wine and stimulants; because at that time they must not have anything supposed to give them strength. But when they have become well again and strong, then they may return to the thing that makes strength. The clever satire conveyed in

this criticism is singularly happy, and is as acute in its meaning in the present as it was in the day for which it was written. It is the commonest of practices still to tell the sick that they must knock off their wine or spirits or beer for a few days until they recover, and the sick do it without a murmur. It is fair to say that they, the sick, gain for a time all the benefit arising from total abstinence, and many is the case upon case that is cured by this means. The cure completed, the permission to return to the usual beverage is accepted with satisfaction and the old process goes on again. In the latter part of the last and the early part of this century, the distinguished Dr. Thomas Beddoes expressed himself in many ways as holding by our views. Beddoes was the first man who exposed or refuted the old and common error that alcoholic liquors favoured the digestion of food. Beddoes fed some young puppies that were about to be drowned with foods of the same kinds, but of different qualities in regard to alcohol. To some he gave the food with alcohol in differing measures, and to others food with no alcohol, the quantity and nature of the food being in all cases the same. As a result of this experiment he found by inspection of the bodies of the animals after death, that in those animals which had received no alcohol the digestion was complete, but that in the others the arrest of the digestion was according to the amount of the alcohol that had been taken. He very correctly connected this observation with the fact that men who have taken part in a debauch retain in the stomach the indigested food they have taken, and often suffer severely until it is voided in a state of partial fermentation. With Beddoes, but on the other side of the Atlantic, was the famous Benjamin Rush of Philadelphia. Rush was brought up with every influence against him as a Temperance Reformer. It was thrown out against him by his enemies that his mother kept a shop or store for the sale of intoxicants; nevertheless as he grew up, and became an accomplished practitioner of medicine, he obtained such an excellent knowledge of the diseases incident to the action of alcohol, that he described a new kind of pathology, and led the way to the study of diseased changes of structures from alcohol in the different tissues and organs of the body in persons of different ages. Dr. McNish is another member of the profession of medicine who deserves the honour of sharing with Rush in the detection of the diseases which spring from the use of alcohol. He went further than Rush in this direction. He defined twenty-four forms of disease as connected with the use of alcoholic beverages, and he gave to these names which were so well chosen, that they remain in use until the present day. McNish seems to have been specially struck with the effects of alcohol upon the nervous system, and came very near to that

form of nervous affection to which the name of alcoholic paralysis has been lately applied upon the researches of Magnus Huss.

From the time of these scholars in medicine up to our time, there has been a solid line of the best and wisest thinkers on our side of the question, some of whose names are in fact historical. Sir Astley Cooper, if not himself an absolute abstainer, was one of the foremost to denounce alcoholic drinks. "I consider," he said, "all spirits bad spirits;" he would not have them, it is said, in his house, and he was emphatic in impressing on his students the injurious action of alcohol on those of the devotees of it who had to come under the hand of the surgeon for operation. In Sir Astley's days the draymen of London were more thorough slaves to beer than they are now, and the great surgeon instanced them as the worst of subjects for operative proceedings. On these lines he was followed by the late Mr. Higginbottom, of Nottingham, who not only condemned intemperance as a source of physical evil, and a cause of physical and moral disease, but showed in the most striking terms the affirmative side of temperance, the health and virtue which it brought to the individual and to the nation, and the advantages all round which accrue from complete freedom from the use of intoxicants of all kinds. Mr. Higginbottom, moreover, practised what he preached. In the midst of an opposition, and it may almost be said opprobrium, of the members of the profession amongst whom his upright, outspoken, and spotless life was cast, he lived not for himself alone, but for everyone firmly upholding doctrines and practices which were accentuated as unreasonable, and which are only just now beginning to be accepted as the essence of truth and common sense and practical piety. In like manner the late Dr. John Snow, whose labours on anæsthesia, and whose works as a sanitary reformer, were beyond all price, was all through his career an advocate of our cause. Snow was many years a total abstainer, and for some years a teacher of total abstinence. It may be observed of him as a point of much moment, that when he came to the study of narcotic substances he looked upon alcohol as distinctively a substance of the narcotic class. He never admitted alcohol as a food, and he never separated it from the chemical bodies which are strictly of medicinal character; in short, drugs belonging to the chemist, not to the cook or housekeeper, to the shop, not to the sideboard, cellar, or pantry. It would not perhaps be strictly correct to claim the late Sir Benjamin Brodie for one of our close friends and allies. He was, I have always heard, one of the most temperate of men, but he never I believe, beyond signing one of the memorials, made himself an advocate of our views. At the same time his study of the action of alcohol on the

body led him to enunciate a truth which it is of first importance to remember. He said "That there is nothing in alcohol that gives power to the nervous system: the best service which it does is that it calls forth the last or reserve power, so that it most thoroughly exhausts or uses up the vital powers without, in turn, conferring any new power." To men of thoughtful and staid minds no stronger condemnation of alcohol in health could have been rendered; and when the administration of alcohol in the treatment of disease is under consideration, the same exposition of the illustrious surgeon deserves to be well and faithfully remembered.

The name of Brodie suggests naturally one of his cotemporaries in surgical science, who was one with us, through all good or evil report, heart and soul—I refer to Professor James Miller, of Edinburgh, whose essay on "Alcohol: its place and power," remains a standard volume. Miller grasped the whole question with the true matter-of-fact clearness of intellect peculiar to his nation. He was never over enthusiastic, never below the level of sound argument. His admissions were often better than some men's positive declarations, for they always led to conclusions which showed that to admit was often to let an opponent go on until the proof he wished to establish was argument carried to absurdity. Miller, like Higginbottom, practised as he taught, and his skill as a practitioner, never questioned by his most vigorous opponents, was the surest proof of the correctness of his deductions. He advanced the cause of temperance socially, practically, scientifically, and he deserves equally the commendation of the working man, the philosopher, and the physician.

The name to which I would next refer is one with which the ear is already familiar, but which belongs to another man and other time—I mean the name of Cheyne. I have noticed Dr. Cheyne, of London, who belonged to the last century. The man of the same name now before us is Dr. Cheyne, of Dublin, a man of our own century, and perhaps just within the memory of some still living. Cheyne of Dublin, like Miller of Edinburgh, grasped the whole question, and was most clear in his exposition of principles. Cheyne is so full of good and useful information and thought, it is difficult to pick out what is of greatest value in his work, which was communicated to the world in a series of letters addressed to a friend who was in search of the truth. One subject may, however, be selected, because it introduced at the time it was written a new topic. It had been accepted as a fact that in order to meet great trials of endurance, mental and physical, it was necessary to have resort to stimulants. Men who were exposed to cold during long journeys on the stage-coaches, doctors, nurses, and those who

were subjected to long hours of night watching, and others exposed to causes of anxiety and strain—these all required, it was believed, to be “supported” by alcoholic drinks. Dr. Cheyne destroyed this old and fallacious idea at one stroke. He proved by direct observation, made on his own person, that this idea is the exact opposite of the truth, and he settled for good that alcohol is the destroyer not the supplier of vital strength. The second Cheyne also industriously collated much that had been said by those who had preceded him in the learning and teaching of medical temperance; but in this respect, as a collator, he was entirely surpassed by another earnest labourer, the late Dr. Grindrod, of Malvern. Dr. Grindrod was winner of a prize that was offered for a medical essay on temperance, and the prize came before the world under the title “Bacchus.” This book, “Bacchus,” was the encyclopædia of temperance up to the date of its publication, and no temperance library even now is complete without it. None but they who have devoted their lives to literature can, I imagine, form any estimate of the enormous outlay of time and labour that was expended over this volume. Grindrod also did more than compose and publish the encyclopædia of temperance. At a time when the proceeding was most unpopular, he occupied the public platform as a lecturer on the scientific side of temperance, and often planted the first seeds of knowledge on the subject, in places where they had never been sown, and in soils which appeared the most unpromising. Lastly, to the earnest and fertile mind of Dr. Grindrod we must add the further credit that he was one of the earliest physicians, perhaps the earliest, to establish a sanitarium or private health resort, in which alcoholic drinks were rigorously excluded.

In a review such as the present, it is impossible to overlook the name of Dr. W. B. Carpenter as a pioneer of temperance, who, without actually being an abstainer in the strictest sense of the word, was a physiological teacher of temperance who added many new facts and arguments in its support. Dr. Carpenter seized the facts which particularly relate to physical work, with and without alcohol, and he most conclusively indicated that for such work of the best and hardest character, alcohol was not needed. He taught also on physiological grounds that for the majority of mankind the use of alcohol as a beverage is a mistake, and that its exceptional employment ought to be guarded with the most scrupulous care. In his own case he pushed this rule to a refined degree. He considered that he required each day a modicum of stimulant, and he restricted himself to one, or at most two, glasses of claret. We staunch abstainers would be inclined to look upon this as a fetish, but

we need not be less grateful to the learned investigator who, in the face of a certain feeling in favour of alcohol which he could not give up, helped so largely in overcoming the same feeling in others.

The crowning advocate of the past for scientific temperance, and the last to whom I shall individually refer, is Dr. Parkes. In the last declaration, which was read in the opening part of this paper, Dr. Parkes took an active share. In his labour as a demonstrator, he played a still more important part. We can, indeed, scarcely over-estimate the value of his work. Perfectly independent both in mind and position, unbiassed by any contending passions or disputes, fond of original investigation of nature, possessing unexampled opportunities for investigation, not caring a straw as to the answer which nature would give to his conscientious inquiries, and ready at once to record whatever she might answer, Parkes told us in a little space some of the greatest truths as to the action of alcohol that have ever been made known. Probably his most important memoir is that which relates to the influence which alcohol exercises over the heart: the increase of motion which it excites in that organ, the excess of labour which it throws upon it, and the exhaustion of it that necessarily follows.

It might, I do not doubt, be possible to extend this list of medical pioneers of temperance considerably, but this task must, for the present, remain unaccomplished. If I understand the wishes of this Society, it desires to show to the world that, as a medical body, it does not stand alone in the battle it is fighting, that it is no new crusade springing out of its own isolated beliefs and convictions; but that it is a continuous or advanced phalanx of British medical men who possess a title to speak derived from some of the most eminent, intelligent, and practical leaders that ever graced our profession, or performed beneficent and exalted service for mankind.



REPORT OF HOSPITAL PRACTICE.

LONDON TEMPERANCE HOSPITAL.

ENTERIC FEVER. (*Under the care of Dr. J. J. RIDGE.*)

W. H., aged fourteen, a plumber, was admitted into the Hospital on April 16th, 1888. He was quite well until April 10th, when he began to suffer from pains in head and other parts. He took to his bed on the next day, and became somewhat delirious and rapidly worse. He is a spare, delicate-looking lad, slightly jaundiced, and with a flushed face. On admission he was semi-

delirious, with a dry brown tongue, tender abdomen, with a few small rose-coloured spots, and small quick pulse: evening temperature 103° , and on 17th (next day) $104^{\circ}.2$. On the 19th, having gradually become worse, his face and lips were cyanosed, and the pulse 140, almost running, while the delirium had increased, and he was roused with some difficulty. He was partially relieved by half-drachm doses of sulphuric ether every two hours, which were continued, with some intervals, for two days. On the 21st (11th day of disease), being in much the same condition, pulse 144, respirations 48, the ether was stopped, and five minims of glycerin tincture of digitalis with fifteen drops of chloroform water were given every three hours, or as required. By the 24th the surface was cooler, and the duskiness of the face was less, but he was still delirious, and difficult to rouse. He could be got to swallow his food, however, which was almost entirely farinaceous milk; that is, milk in which a little corn-flour had been boiled, but fluid when cold. On the 26th the breathing was fuller, and face a better colour; the pulse slower, and less jerky, though it was not extinguished without considerable pressure. Up to May 2nd (22nd day of disease) he remained in much the same semi-conscious state, though without such alarming symptoms. There was a little blood in the stools, which were never very frequent—about twice or three times a day—and characteristically typhoid. He was sleeping better. By May 9th he began to respond more easily, but there was great prostration. By the 19th the appetite was returning, pulse was fairly full, but compressible, and convalescence had fairly set in, and was continued.

The medicine from the first was dilute sulphuric acid, with two and a-half minims of tincture of opium, every four hours. The temperatures during the several weeks were these:—

1st week	—	highest,	$105^{\circ}.6$	lowest,	102°	average,	$103^{\circ}.6$
2nd	„	—	„	104°	„	$101^{\circ}.2$	„ 103°
3rd	„	—	„	$103^{\circ}.2$	„	$97^{\circ}.2$	„ $100^{\circ}.6$
4th	„	—	„	$102^{\circ}.5$	„	$97^{\circ}.8$	„ $99^{\circ}.8$
5th	„	—	„	$102^{\circ}.2$	„	$96^{\circ}.5$	„ $99^{\circ}.2$
6th	„	—	„	$99^{\circ}.8$	„	$96^{\circ}.7$	„ $98^{\circ}.2$
7th	„	—	„	$100^{\circ}.4$	„	$97^{\circ}.2$	„ $98^{\circ}.6$

Remarks.—The onset of this case appears to have been rapid, though the disease probably began before the 10th of April. The early severity, especially of the brain symptoms, was of grave import, and the condition of nervous prostration was such as would have led most practitioners to say that alcohol was absolutely necessary. The effect upon the circulation seemed to be to produce a spasmodic contraction of the small vessels,

which the heart laboured hard to overcome; the pulse at the wrist was for some days at times almost incompressible and inextinguishable. The digitalis, by slowing and steadying the heart, enabled it better to overcome this obstacle. It is possible that the ether was useful by relaxing this spasm, and alcohol might do the same. Its continued use in large quantities would, I think, be likely to aggravate this condition, and so tend to exhaust the heart still more. The satisfactory recovery without alcohol clearly shows that it is not indispensable. If another such case should present itself, it would be desirable to administer amyl nitrite or nitro-glycerin as an anti-spasmodic.

Miscellaneous Communications.

THE EFFECTS OF MODERATE DRINKING ON THE HUMAN CONSTITUTION;

ITS INFLUENCE ON LIVER, KIDNEY, HEART, AND BRAIN DISEASES.

By GEORGE HARLEY, M.D., F.R.S., *Formerly Physician to University College Hospital, and Professor in University College, London.*

(From the "Lancet.")

I.

It having been so frequently said, as almost to have assumed the form of an aphorism, that a well-educated medical man is the most entertaining of all companions, one feels inclined to ask the question, Why is he so? more particularly as it requires a person to be himself possessed of a certain amount of talent before he is capable of appreciating talent in another; and the above remark is almost invariably observed to fall from the lips of those who are themselves naturally gifted. In my humble opinion the reason is not far to seek, seeing that the mentally gifted estimate the conversational powers of their companions in direct proportion to the amount of fresh ideas they derive from them. And the professional training of a medical man is such as not only to give him a special knowledge of medical matters, but to expand his mental faculties in a manner, and to a greater extent than the specific training of any other profession or avocation. The main factors

leading to this exceptional result lie in the insight he acquires into the fundamental and immutable laws of organic and inorganic nature, during his studies in physiology, chemistry, physics, zoology, botany, and geology. For while the study of divinity, law, history, mathematics, and the classics, go but little beyond stocking the mind with facts and general principles, and thus preparing it for the reception of new ideas, the information derived from listening to lectures on natural science, and more especially from working practically at it, develops the brain-power of observing, comparing, analysing, and generalising, to a far greater extent than any other form of mental training. Consequently, it may be truthfully said that, as a rule, the medical man's special studies enable him to take not only broader, but at the same time more original, views on general topics than any other men of precisely the same mental abilities and scholastic attainments. This fact is not improbably the reason

why the well-educated medical man is not only regarded by the learned as an instructive companion; but likewise as one whose opinion on quasi-medical and semi-scientific social questions are always listened to with pleasure, and oftentimes even accepted with deference. The mere knowledge of this fact ought of itself to be sufficient to stimulate every member of the profession to make himself as fully acquainted as he possibly can with all the bearings of the alcoholic question, seeing that the subject of total abstinence as well as mere temperance is at present being hotly discussed by the laity, not alone in the light of an individual, social, and national question, but even in that of a purely hygienic one. And while the opinions of the profession are on all sides being eagerly sought for, they are not only freely canvassed, but oftentimes adversely commented upon, in consequence of their apparent want of uniformity as regards the effects of moderate drinking on the human body. No doubt it is partly in consequence of this divergence of opinion on questions purely medical, and seemingly so simple, that we are for ever having the unreasonable taunt that "doctors differ" dinned into our ears by people who fail to perceive that a difference of opinion among men who think for themselves is but a law of necessity, from the fact that human brains, like human faces, although possessing a marked general similarity, have nevertheless each its own special innate characteristic individuality. Consequently, differences of opinion on matters strictly appertaining to their own special calling is in no wise limited to the votaries of medicine, but are the common attributes of every other profession. Our spiritual advisers are not exempt from this weakness, even on some points of divine doctrine upon which *à priori* one might anticipate there could not possibly exist any schism. Notwithstanding this, however, as it is an undoubted fact that all minds of equal mental calibre and similar training must of necessity hold the same views on any given subject when the data before

them are identical, it naturally follows that there would be far less divergence of opinion among medical men regarding the medical as well as the social aspects of temperance were they cognisant of all the facts at present known of the therapeutical action of alcoholic beverages on the human constitution. For there can be no doubt that, even in spite of medical men's familiarity with the graver forms of disease directly traceable to intemperance, they are far, very far, from having reached the goal of truth regarding either the advantages or disadvantages of moderate drinking. And it is upon this very part of the temperance question their opinions are most urgently demanded by the laity, and upon which, most unfortunately, such diverse dogmas are propounded by different members of the profession. There cannot, consequently, be two opinions regarding the desirability of our all trying to be on the same level in knowledge regarding the effects of alcoholic stimulants upon the frame when indulged in in small quantities, seeing that it would undoubtedly be, both individually and collectively, a threefold advantage. For, firstly, it would unquestionably be a professional benefit to minimise the injury sustained by us collectively from our giving utterance to undecided and, what is still worse, sometimes even diametrically contrary opinions on the effects on the general health of alcohol taken in small quantities at a time. Secondly, it would be an individual advantage to all of us to be in a position to tell our associates something more about the effects of alcoholic drinks than they are already aware of. While, thirdly, the more information we acquire of the modes of action of small quantities of alcohol in health as well as in sickness, the better it will be for our patients.

It is because of there being at present such diverse views expressed regarding the influence moderate drinking has on the constitution that I am tempted to contribute my mite of knowledge to the general stock, in the hope that what I relate may suggest new ideas in the minds of others who, like my-

self, are interested in the study of this intricate question. For I regret to find that, notwithstanding there has already been so much written, and well written, on the action of alcohol when taken in excess, no one appears as yet to have thought it worth his while fully to tackle the subject of moderate drinking. The reason of this, perhaps, is not far to seek, seeing that a little reflection reveals the fact that, although the majority of persons may truthfully be said to be moderate drinkers, and consequently medical men see far more patients belonging to this category than any other, they possess but very little opportunity of studying the effects of alcohol, when thus indulged in, upon the constitution. For the following reasons:—1. There are not only no tables of statistics of its effects in existence, but there are no means of acquiring them; the statistics of the effects of drunkenness, of which there are abundance of greater or lesser value, being unfortunately of no service whatever in solving the problem of the effects of moderate drinking either on mind or body. 2. In no instance are the effects sufficiently marked to necessitate any special form of treatment in a public institution. 3. The deleterious influences on the bodily functions are so insidious as in the early stages either totally to escape detection, or, what is more common, to lead them to be attributed to some entirely different cause. 4. The effects of moderate drinking manifest themselves in such a variety of different forms, that, even when their true nature is recognised, the general practitioner has not the opportunity of seeing a sufficient number of any one of them to admit of his drawing conclusions from them. 5. The men who have most experience of the severer forms of functional disease directly traceable to the effects of moderate drinking are, in general, merely those who, like myself, make liver and kidney diseases a special study; the liver, kidneys, heart, and brain, being those organs of the body most affected by alcohol when indulged in within the limits of what is called moderation. Notwithstanding this

fact, it being impossible for me or even anyone else, specially engaged in the treatment of liver and kidney diseases, to collect a sufficiently large number of telling cases from which to deduce crucial data of the deleterious effects of small quantities of alcoholic stimulants habitually indulged in by temperate men, I purpose adopting the plan of drawing conclusions from the statistical data of the effects of alcohol on the human constitution, when it is taken in the form of what is called “nipping”—that is to say, small quantities only being taken at a time, but frequently, in the course of the day. Of these, fortunately, the Registrar-General’s reports of our national mortality in different industries furnish us with something approaching to reliable data. So I shall make use of them, along with some German statistics of a similar character, in illustrating the probable pathological effects of moderate drinking on the human constitution. For, when one cannot get what he wants, it is good policy to make use of what he has got, on the principle that half a loaf is better than none. 6. Added to all these drawbacks to the formulating of reliable conclusions regarding both the direct and indirect effects of alcoholic stimulants, taken in small quantities at a time, upon the vital functions, there is yet the other of reconciling different minds with what is exactly meant by the term “moderate drinking,” seeing that a quantity which one would call moderate is not at all unlikely to be by another designated immoderate drinking. Before attempting to define the intrinsic value of the two words, let me remind the reader that the mere use of the term “moderate,” when applied to anything whatever—whether it be to walking exercise, or anything else—implies that it is merely a relative, and consequently a fluctuating, quantity, according to the capabilities of the individual and the circumstances of the case. For a moderate walk to a weak person is quite a different thing from a moderate walk to an athlete. So the term “moderate drinking,” when applied to a girl in her teens, is something quite

different from the term "moderate drinking" when applied to a robust man. Consequently its intrinsic value is not to be measured by quantity, but by the effects; and fortunately, as every thinking being is capable of doing this for himself, it is quite unnecessary for me to fix upon any given quantity, but merely to say that by moderate drinking I mean the indulging in alcoholic stimulants well within the margin of intoxication. With these preliminary remarks I now enter upon my task, and as it would be utterly impossible for me, or anyone else, to treat exhaustively such a wide subject as the action of alcohol on the human frame in the short space allotted to one in a weekly journal, I shall, for the present, confine my remarks on the effects of moderate drinking to those more particularly observed on the four important and indispensable organs of the body—namely, the liver, kidneys, heart, and brain.

II.

Although all persons who indulge in alcoholic stimulants well within the margin of habitual drunkenness speak of themselves as "moderate drinkers," there are two special classes of them which bear no resemblance to each other except in the one solitary circumstance that they never at any time take sufficient to intoxicate themselves. The one class is that which only partakes of stimulants while eating, the other indulges in them between meal-times. To the latter habit is applied in this country the title of "nipping," while in the East it is spoken of as "pegging." And this is the most pernicious of all forms of drinking, from the fact that stimulants taken without at the same time partaking of food, though only imbibed in small quantities at a time, have most deleterious effects on the internal organs. A man who habitually indulges in a single glass of sherry in the forenoon, a brandy and soda in the afternoon, and a glass of whisky and water in the course of the evening—for reasons presently to be explained—does far more injury to his

constitution than one who partakes of a larger quantity of alcoholic stimulants at meal times. That this is not a mere ideal opinion evolved from the realms of fancy, but one founded upon an indisputable basis, I shall show by reference to the table of mortality furnished by the Registrar-General in his Annual Reports. As there, unfortunately, exist no special tables of mortality from this form of moderate drinking, I have adopted the plan of estimating its effects on health by comparing the death-rates given in the reports of persons who, in the course of their vocations, are exposed to the temptations of taking small quantities of alcoholic stimulants between meal-times, with the recorded death-rates of those, at the same ages, whose trades and modes of life do not so expose them. And the results are, I think, perfectly conclusive. For they not only furnish us with a comparative absolute average death-rate in the two sets of cases, but in no ambiguous language, point out both the exact organs of the body that are most affected by nipping, and give us the relative proportions of the deleterious influence it has upon each of them.

First, then, as regards the influence of "nipping" on the liver and kidneys—the two organs of the body not only more immediately affected, but most closely correlated, from the fact that when the one is diseased the other has to perform its functions, as best it can, vicariously. Seeing that the average amount of drunkards is much about the same in all industries, when it is considered on such a vast scale as over the whole nation's strength, I scarcely think anyone will doubt the trustworthiness of the results, as revealed in the subjoined tables:—

<i>Death-rate of men between the ages of twenty-five and sixty-five.</i>			
Men exposed to the temptation of "nipping,"	Liver diseases.	Urinary diseases.	
Commercial travellers ...	61	...	44
Brewers ...	...	96	...
Innkeepers, publicans, vintners, barmen, and waiters	240	...	83
The comparative death-rates of men of			

the same age engaged in other industries, not exposed to the temptation of "nipping" are, again, as follows:—

Death-rate of men not exposed to the temptations of "nipping."	Liver diseases.	Urinary diseases.
Gardeners and Nurserymen	18 ...	39
Printers ...	28 ...	30
Farmers and graziers ...	41 ...	31
Drapers and warehousemen	35 ...	37

As an addendum to these most telling statistics, I think I cannot do better than quote what Baer says regarding the probabilities of life in persons exposed to the temptations of "nipping" compared with that of those not liable to be so tempted. The following is extracted from his table of Prussian statistics, and I arrange them, for the sake of easy comparison, in two parallel columns, showing the probable duration of life, calculated at different ages:—

PROBABLE DURATION OF THE LIFE OF MEN.

Age.	In the liquor trade.	Not in the liquor trade.
25 ...	26'23 ...	32'08
35 ...	20'01 ...	25'92
45 ...	15'19 ...	19'92
55 ...	11'16 ...	14'45
65 ...	8'04 ...	9'72

This, as is seen, is an equally instructive table.

To return for a moment to the part played by the so-called moderate use of alcoholic stimulants in the production of fatal forms of liver disease. As it is, I think, impossible that we as medical men can know too much regarding the probable deleterious effects of mere "nipping," I here subjoin an extract from the Registrar-General's tables of the comparative mortality from liver diseases in different industries, between the ages of twenty-five and sixty-five, in the years 1880-1-2, which exhibits the matter in a stronger light than any words of mine can possibly do:—

Bookbinders ...	3	Butchers ...	21
Booksellers ...	4	Fishermen ...	22
Hatters ...	9	Brewers ...	42
Tobaccoists ...	10	Innkeepers pub-	
Druggists & printers	18	licans, vint-	
Gardeners and		ners, waiters,	
miners ...	19	and barmen	197

The result here shown is so startling that the Registrar-General not inappropriately designates it as "appalling," seeing that the proportion of deaths from liver diseases is in reality six times greater among men exposed to the temptations of "nipping" than in that of all the other industries combined; the actual figures being:—for brewers, 1,361; for vintners and other salesmen of wines, spirits, and beers, 1,521; and for waiters and barmen (those most exposed to temptation) no less than 2,205. Whereas for maltsters, who are only concerned with the materials from which intoxicants are manufactured, and not with the intoxicating liquids themselves, the death-rate is only 830. Nothing could be more conclusive of the deleterious effects of so-called moderate drinking on the human constitution than this; for as all different effects in this world originating in identical causes are but relative, it is readily seen how a lesser proportion of "nipping," though giving rise to lesser results, must nevertheless cause a proportionate amount of cases of disease in the liver and kidneys to those given in the above tables.

Notwithstanding the familiarity of medical men with the fact that many cases of hepatitis, chronically enlarged liver, and cirrhosis, are directly traceable to inebriety, few, I fancy, can have been prepared, without some special acquaintance with the subject, for the information furnished by the foregoing mortality tables of the potent action of alcohol on the liver, when only taken in small quantities at a time. And although it may at first sight appear strange that the liver of all the organs in the body should be most potently affected by moderate drinking, I think one can scarcely be surprised at this if he is acquainted with the peculiar action of alcohol introduced into the liver by the portal vein. For it requires, I think, but a small amount of reflection on the part of those acquainted with the mechanism of digestion, to understand how alcohol, when taken into the stomach, even in small quantities

at a time, is a powerful agent in the production of hepatic disease. Seeing that most of the liquid products of our food are carried directly from the intestines to the liver by the portal vein, it consequently follows that almost every drop of the alcohol, be it small or be it great, taken into the stomach, must be directly conveyed by the portal vein to the liver, and compelled to filter through its tissues before it can possibly get into the general circulation and reach any of the other organs of the body. The knowledge of the fact that all the imbibed alcohol is directly conveyed to the liver by the portal circulation not only gives a clue to why alcoholic stimulants are so prone to induce hepatitis, as well as to increase the formation of sugar and aggravate diabetes, but to bring about an attack of gout. Seeing that the liver is regarded as the main source of both sugar and uric acid—the supposed gout-forming material. In addition to which, the direct conveyance of alcohol to the liver affords us a reasonable explanation of why alcohol taken along with the food, is so much less detrimental to the constitution than when it is taken on an empty stomach. Moreover, it is now a well-known fact that the continuous excitement of the liver kept up by habitual “nipping” is far more injurious to its functions than an occasional outburst of drunkenness followed by intervals of strict sobriety. It equally accounts for the fact that the liver is not alone the first organ of the body that becomes affected, but is at the same time the one most seriously disordered by moderate drinking.

The effects on the kidneys of moderate drinkers are far less apparent than upon the liver; nevertheless they are sufficiently marked to merit attention. The reason why the kidneys suffer so much less from the imbibed alcohol when it is taken in only small quantities at a time is sufficiently obvious, seeing that a large quantity of what passes through the liver never reaches the kidneys at all, from a considerable part of it having been eliminated by the breath during its passage in the blood through the lungs. That in-

temperance is a fruitful source of Bright's disease has long been known, and the reason of this is not far to seek, seeing that it is the special duty of the kidneys to eliminate alcohol from the general circulation—as they do all other foreign materials. And the more work that is thrown upon an organ, the more prone are its tissues to become degenerated. Not only, however, do we know that the kidneys eliminate the imbibed alcohol (from its being met with in urine), but we likewise know that alcohol, as alcohol, saturates the renal tissue to such an extent that I and others have been able to obtain pure alcohol from the kidneys of persons who have died intoxicated, by the simple process of distillation. Besides all this, however, there is a special reason why the kidneys should become diseased in so-called moderate drinking; and that is on account of the circulation being incessantly increased in them, as it is elsewhere, from the accelerated heart's action induced by the repeated imbibition of stimulants in small quantities. For no doubt the diameter of the renal blood-vessels is augmented by their engorgement, and consequently they exert a deleterious pressure on the intervascular tissues, which will interfere with their proper nourishment. While, further, this engorgement of the renal vessels will render the kidneys more liable to the injurious effects of chills; and chills are, as is well known, the most fruitful cause of kidney disease. This view of the case appears to me to give not only the clue to the reason why Bright's disease is so particularly common among the inebriate, but likewise why transient attacks of albuminuria are so frequently met with in moderate drinkers, among both men and women. Spirit drinking is said to be mainly instrumental in inducing the variety of renal disease named granular kidney; while beer drinking is, on the other hand, thought to be the most potent in bringing about fatty degeneration of the renal tissues. Be that as it may, I well know, from long experience of urinary affections, that even small quantities of alcohol habitually

indulged in sometimes bring on most troublesome forms of albuminuria, without there being any well-marked symptoms of the existence of either granular or fatty degeneration of the tissues of the kidneys.

III.

Alcohol, when taken in small quantity, is in general said to act as a direct cardiac stimulant, and its stimulating effect is supposed to be due to its possessing the faculty of increasing the muscular power of the heart. I take an entirely different view of the matter, and shall now endeavour to show how the increase in the force of the heart's movements, the quickening of the pulse, the flushing of the face, the congestion of the retinal of the blood vessels, as well as all the other visible appearances of accelerated cardiac functional activity, are in reality in no wise due to the stimulating action of alcohol, either on the heart's muscular tissue or the nerves supplying it, but actually to the very reverse—namely, its paralyzing effects on the cardiac nerve mechanism. This may appear a strange idea to those unfamiliar with the advanced theories regarding the accelerating and restraining heart's nerve forces. Nevertheless, it is quite consonant with the results of modern physiological investigations, which go far to prove that every function of organic life—no matter whether it be the expulsion of the urine, the peristaltic movements of the intestines, the throbbings of the heart, or involuntary respiration—acts under the immediate influence of a bifold nerve mechanism. For example, the human heart is endowed with two entirely different and opposing centres of nerve force, and so retro-active are their respective functions that the sole duty of the one appears to be to regulate and control the functions of the other. To the former has been given the name of inhibitory, or restraining mechanism; to the latter that of the exciting or accelerating nerve agency. The inhibitory nerve centre being thought to exist in the

medulla oblongata, in close proximity to the vasomotor nerve centre, and the vagus being supposed to contain the fibres with which it communicates its influence to the heart. The sympathetic, on the other hand, is believed to be the channel of communication between the motor-cardiac nerve centre and that organ. Destroy or paralyse the inhibitory nerve centre, or arrest its power of communicating with the heart by dividing the vagus, and instantly its controlling effect on the cardio-motor mechanism is lost, and the accelerating agent, being no longer under its normal restraint, runs riot. The heart's action is increased, the pulse is quickened, an excess of blood is forced into the vessels, and from their becoming engorged and dilated the face gets flushed and the retina congested—all the usual concomitants of a general engorgement of the circulation being the result. Instead of paralyzing the vagus by section, and thereby arresting its inhibitory cardiac nerve power, paralyse it through the instrumentality of a toxic agent, and precisely the same chain of phenomena will of necessity be the result. The most powerful paralyser of the vagus we at present know of is atropia; and what happens when it is given in a full dose? Nothing more or less than the effects we have here attributed to the section of the vagus—tumultuous heart's action, quickened pulse, congested face and eyes, &c. Alcohol acts on the heart, I believe, in precisely the same manner as atropia does, although less strongly. That is to say, it quickens the heart's action, as well as apparently increases its power, by paralyzing its restraining or inhibitory nerve mechanism. This, however, is only the primary action of alcohol on the cardiac organ, for no sooner is the quantity administered sufficiently increased than all its at first apparently stimulating effects vanish. From its now possessing adequate power to paralyse the accelerating as well as the retarding cardiac nerve mechanism, the heart's action, therefore, now becomes diminished, *pari passu* with the amount of the paralyzing agent em-

ployed, until at length (if a sufficiency be given) the cardiac movements are totally arrested, and death closes the scene. Effects on the human organism being, when properly interpreted, like effects in the inorganic world—exactly proportionate to cause—the at first sight apparently stimulating and consequently salutary action of alcohol on the heart, when taken in moderation, is as much due to the alcohol's paralysing power as the destruction of all vital action is its result when it is taken in poisonous quantities. From this, however, it is not to be inferred that its incipient paralysing power over the inhibitory cardiac nerve mechanism must necessarily be in all cases detrimental. On the contrary, it may actually in many instances be beneficial. Just in the same way as atropia, strophanthus, digitalis, and daturine—which are all cardiac inhibitory nerve paralyzers—prove exceedingly useful medicinal agents when they are judiciously employed in appropriate cases, so alcohol, by the doctor's skill, may in like manner be so used as to paralyse to cure, and not to kill.

It being well known that intemperance is a most fruitful cause, not only of all the various forms of heart disease, but likewise of the degenerations of the coats of the blood-vessels, all I at present require to do is to prove that even what is called moderate drinking has a much greater share than is generally supposed, in not only greatly increasing heart diseases, in cases where they already exist, but also in inducing their development in the constitutionally and hereditarily predisposed to become affected by them. The reason why moderate drinking should induce not only hypertrophy and dilatation, but likewise valvular disease of the heart, is not far to seek—from its being a recognised fact that every increase in a muscle's activity is associated with an increase in its development, as well as its tension on the parts with which it is connected. Therefore, just as it happens that the dealers in horses, "runners-out," whose hearts are called upon to make oft-repeated sudden spurts of cardiac

activity induced by the frequent indulgence in small quantities of alcohol, lead, for precisely similar reasons, to equally deleterious consequences in persons either already affected with or liable to become affected by heart derangements. Moreover, the congestions of the liver, accruing either from the direct action of alcohol on the liver tissues, or from its indirect effects in favouring hepatic congestions and inflammations through the instrumentality of chills, materially enhance the prejudicial action of alcoholic stimulants on feeble hearts. For all obstructions to the free circulation of the blood, no matter whether they exist in the heart itself, in the lungs, in the liver, or anywhere else, from their necessitating an increase in its labour, in order to try and overcome them, act most injuriously upon the organ—not only in direct proportion to their amount, but also in proportion to its own inherent weakness. The truth of one and all of the foregoing statements will, by a little reflection, be gleaned from the results of drinking small quantities of alcohol frequently during the day, as manifested by the figures in the subjoined table of mortality I have drawn up from the Registrar-General's reports, of the relative frequency of diseases of the circulatory system among men between the ages of twenty-five and sixty-five employed in different industries. For it not only shows the effects of so-called moderate drinking *per se*, but likewise the still more pernicious effects of it when it is associated with intermittent muscular strain. That is to say, when the stimulus of alcohol upon the heart has superadded to it an increase in the heart's activity necessitated by oft-repeated sudden muscular efforts. For while it shows that all exposed to the partaking of alcoholic stimulants in small quantities at a time are much more frequently affected with the fatal forms of cardiac diseases than others, it in an equally unmistakable way shows that men who, like brewers, require in the course of their trades to tax muscular strength, and thereby throw additional work upon their hearts, are far more often attacked with the

fatal forms of diseases affecting the circulatory system than men equally addicted to imbibe alcoholic stimulants, but who are not called upon to make similar kinds of straining muscular efforts.

The relative proportions of deaths from diseases of the circulatory system in the different classes are:—

<i>Those not exposed to the temptation of drinking.</i>	<i>Those exposed by their avocations to the temptation of drinking.</i>
Drapers and warehouse-men ... 75	Commercial travellers 100
Gardeners and nurserymen 82	Vintners, waiters, and
Printers ... 93	barmen ... 146
	Brewers ... 165

Moreover, it is equally known that intemperance is a most active agent in the induction of atheromatous degenerations in the coats of the arterial system, and as such a fruitful source not only of death by cardiac syncope, but likewise by apoplexy, from the cerebral vessels being quite as frequently and as severely affected with the degeneration as those of the heart itself, and the coats of the one set being as liable to sudden rupture as those of the other, if not indeed even more so, from the less solid nature of the brain surroundings. I wish now to call special attention to what I believe to be a fact—namely, that what is termed “moderate drinking” is a far more general cause of atheromatous degeneration of the coats of the blood-vessels than is usually supposed. The knowledge of this fact has on more than one occasion proved exceedingly useful to me, when being asked to give a prognosis in cases of heart disease (which, from an examination of the brachial arteries, I have found to be associated with even slight atheromatous degeneration of the blood-vessels), from my invariably making it a point of warning the friends that, notwithstanding that the patient labours under advanced organic heart disease, it is not at all unlikely that he will die suddenly from apoplexy instead of from the heart's disease itself. In illustration of this, I may

allude to two most important as well as characteristic cases of the kind which are fresh in my memory, in which, notwithstanding that both were cases of serious heart disease, neither the death of the one nor of the other was due to failure of the heart's action, but to the rupture of a cerebral blood-vessel.

The one was a case of mitral valvular disease associated with extensive atheromatous degeneration of the arteries, while the other was a case of extensively hypertrophied and dilated heart, equally associated with degenerated arteries. The first patient died from apoplexy and right side hemiplegia, with which he was seized while hurriedly dismounting from horseback, after riding hard in order to catch a train. The second succumbed from coma, rapidly supervening upon an apparently temporary attack of giddiness and partial unconsciousness, to attacks of which kind he had been liable for two years, and which one out of the four consultants he applied to most erroneously, I think, imagined were of an epileptic kind: I say erroneously from the fact that the unconsciousness was sometimes not only accompanied by a difficulty in articulation, lasting for twenty-four hours, but was partial; and there never was either a scream before, stertorous breathing during, or drowsiness after any of the attacks. His first seizure, indeed, was diagnosed by his usual doctor as one of sunstroke, from its having happened on a broiling hot day during the time he was witnessing a cricket match at Lord's. Both of the cases I am now referring to were men of position, and well known to several of the leading members of our profession as gentlemen not only of active minds, but active bodies. For they had all their lives been accustomed to take plenty of exercise, in the shape of hunting and other kinds of field sports, and, until they were over fifty years of age, had never had a day's illness; indeed, even during their illnesses, they looked remarkable specimens of perfect health. They had both lived well, though they had a perfect right to call themselves mode-

rate drinkers, as neither of them ever indulged in stimulants, either to excess or except at meal-times. The first became aware of something being wrong eight years before his death, by noticing that he got out of breath on walking fast, and that he occasionally felt a little giddy, without any apparent cause. It was on account of these symptoms that he was sent to me—after he had seen three other consultants—by the late Mr. W. Coulson, of St. Mary's Hospital. His visit led to the discovery that he had valvular disease of the heart, associated with atheromatous degeneration of the arteries. And I have but little doubt that it was on account of his being at once made aware of this fact, and having strongly pointed out to him the necessity of changing his mode of life and paying careful attention to regimen, that the fatal termination was so long postponed. He did not even die immediately from the sudden attack of apoplexy above alluded to; for, by dint of care, he in three months' time partially recovered from both the apoplexy and its associated right-side hemiplegia, and might possibly have lived for some years longer had he not given way to a sudden outburst of temper, which induced the still imperfectly healed cerebral blood-vessel, or some other equally weak one, to give way and to cause his almost instantaneous death in the presence of his local doctor, who happened to be with him at the time. The immediate cause of the last attack in the case of the patient with hypertrophied and dilated heart I attributed to the excitement he underwent from a horse he was driving running away. So that both cases may be said to illustrate well the necessity of always enjoining on patients similarly affected the absolute necessity of avoiding all forms of sudden mental excitement, as well as of bodily exertion.

IV.

It may, perhaps, be well for me here to direct attention to a not commonly recognised fact—namely, that extensive atheromatous degenerations of

the arterial coats not unfrequently occur in otherwise apparently healthy men, who live well and take plenty of exercise, in whom there is either no heart disease at all, or, if there be, the organic change is so slight as not to be detectable by either stethoscope or percussion. In all such cases the patients are in general full-blooded, the withdrawal of blood from them, either by cupping or venesection, is markedly beneficial from its relieving the blood tension in the diseased vessels. In fact, it is my opinion that the withdrawal of blood not once, but even repeatedly, in the full-blooded is exceedingly useful, even in cases of hypertrophy, dilatation, and valvular disease, from its equally relieving the tension in the over-distended and stretched auricles and ventricles.

A most instructive case of atheromatous degeneration of the blood-vessels, without any physically appreciable heart disease, showing the advantages of breeding, I shall now briefly relate. It was that of a dignitary of the Church, who, while preaching in St. Paul's, was suddenly seized with giddiness and transient unconsciousness; and while Sir James Paget, Dr. Andrew, and I, were debating the question whether or not it would be advisable to abstract blood from him, either by leeching him behind the ears or cupping his shoulders, the consultation was suddenly put a stop to by his daughter rushing into the room and exclaiming that her father's nose had burst out bleeding. Nature had therefore settled for us the disputed question, and on our reaching the bedroom, from finding that the condition of the patient was already somewhat ameliorated, the epistaxis was allowed to continue until about ten ounces of blood had come away; and although this did not suffice to arrest the disease, yet the patient, who was over seventy, rapidly recovered from the immediate effects of the cerebral attack, and lived for some months afterwards.

As in cases of the so-called constitutional epistaxis of people of over fifty years of age some medical men are fond of prescribing digitalis, it

may be well to warn them against doing so in all cases where there is any likelihood of the nasal hæmorrhage being due to atheromatous degeneration of the blood-vessels. In such cases digitalis, like small quantities of alcohol, increases the tension in the weak blood-vessels by augmenting the heart's pulsations, and thus proves more detrimental than beneficial to the patient. Some years ago I saw, along with Sir Prescott Hewett, an example of this kind, where the patient had on one occasion nearly bled to death from his having had digitalis injudiciously prescribed by his local adviser. I say injudiciously, for the nasal hæmorrhage almost entirely ceased on the drug being discontinued, and on curtailing his wine; which, although he thought he took in moderation and no more than what he absolutely required, was, in reality, acting as prejudicially (by keeping up the arterial tension) as the digitalis itself. This gentleman lived for some years afterwards, and ultimately died, I was told, of peritonitis.

It is, I believe, next to impossible to overrate the desirability of impressing patients labouring under heart disease, as well as atheromatous degenerations of the blood-vessels, with the absolute necessity of being extremely temperate in the use of alcoholic stimulants if they wish either to live long or to ameliorate the disease of the circulatory system under which they labour. For alcohol taken in the form of spirits—brandy, whisky, gin, or rum—even in teaspoonful doses, by increasing the heart's action, has quite as pernicious an effect on the organic structural disease, be its form what it may, as belladonna itself. And I fancy all who have much experience with cardiac diseases know well the intrinsic significance of this remark.

In the early stages of organic disease of the heart or blood-vessels, judicious *regimen* is quite as essential to the well-being of the patient as wise treatment; for, if the case be skilfully handled, it is not only possible for death to be long averted, but even the effects of the organic changes reduced, and, like the cracked jug

which goes often to the well, the life of the patient may be prolonged for years; while, on the other hand, if the true nature of the case fail to be early recognised, and the patient goes on living as if there were nothing the matter with him, the disease rapidly advances, and ere long the time arrives when it is utterly beyond human power to avert a more or less suddenly fatal ending.

After having so forcibly pointed out the baneful effects of even small quantities of stimulants in diseases affecting the heart and blood-vessels, I think it is time for me to show that in these cases the laws of therapeutics are not, like those of the Medes and Persians, unalterable. This arises from the fact that even the same forms of organic disease affecting the circulatory system occasionally differ very materially in their characters as well as in their course, not only from the special constitutional peculiarity of the patient, but likewise in a marked degree from the different circumstances under which he is placed; so that stimulants may be employed in one case as a useful adjunct to other treatment, in spite of their being absolutely forbidden in another. In all cases, however, their employment can only be sanctioned under medical advice, for, from its being always much easier to put a thing wrong than to set a thing right, therapeutical combined with pathological knowledge can alone be safely entrusted to decide whether or not alcohol can be given with either advantage or with safety in any given case of cardiac disease. Even here, however, some general rules for alcoholic treatment can be notified. For there is no doubt whatever that, in all cases of cardiac syncope, spirits, in the shape of brandy, rum, whisky, or gin, are potent heart revivers, especially when there exists no actual organic disease of the organ. And even in certain cases where there are valvular derangements alcoholic stimulants may be had recourse to with marked benefit. Moreover, from the fact of alcohol being a powerful anti-flatulent, there is scarcely a single case of organic disease of the heart in

which it may not sometimes be administered in small quantities at a time with marked advantage. For it is an undoubted fact, though I fear far from being a generally appreciated one, that a stomach distended with wind is a most dangerous complication in heart disease. Mere gastric flatulence is sometimes, indeed, the immediate cause of sudden death, from the wind-distended stomach pressing up the diaphragm against the apex of the heart, and so impeding its movements, in its weakened state, as actually to arrest them altogether. Most of the cases where patients labouring under heart disease are found dead in bed, after having retired to rest apparently in their usual state of health soon after partaking of a hearty meal, are, I believe, due to the effects of pressure upon the heart—probably the result of the combined action of a distended stomach, and falling asleep on their left sides. It is not easy to get statistics on this point, for people are generally in such a state of excitement when they unexpectedly find a relative lying dead in bed that they pay no attention to the position in which he is, and during their struggles to resuscitate him, before the arrival of the doctor, it has been altered. But as far as I have been able to ascertain, the body has most often been found on the left side or back. From this I have become so strongly impressed with the danger attendant on sleeping on the left side, coupled with a wind-distended stomach (the discomfort arising from which may not be sufficient to awaken one from his sleep) that to every patient labouring under heart disease I give emphatic warning never to allow themselves to fall asleep, if they can possibly help it, on their left sides, and never at any time to permit their stomachs to become distended with wind, but to get rid of it by eructating, either with or without the aid of an anti-flatulent, and this more especially before going to bed; and should they have occasion to turn on to their left sides during the night, always to take the precaution of first emptying the stomach of its wind by belching, which a little

practice will soon enable them readily to do. I will even go a step further, and say that a wind-distended stomach has brought about the sudden death of patients even while they were not only awake, but up and moving about. That this is no mere ideal assertion I think the case I am about to relate will show. But before referring to it let me remark that the upward pressure of wind against the diaphragm is little less serious in its effects than a similar amount of pressure arising either from ascitic liquid or a tumour in the abdomen, and that in cases where the cavity of the abdomen has already been seriously encroached upon, either by a pregnant uterus, ascitic fluid, an ovarian tumour, enlarged liver, spleen, or anything else, it requires but a very small accumulation of gas in the stomach to completely arrest a diseased heart's pulsations. Very early in my professional career I was made painfully conscious of this fact. It happened in the following wise.

While I was acting as house-surgeon to the Edinburgh Royal Maternity Hospital, before taking my M.D. degree, I was one morning hurriedly called to a fine, healthy-looking woman, aged thirty-nine, who, shortly after partaking of a hearty breakfast, suddenly began to gasp for breath. She expired almost as soon as I entered the ward. At the post-mortem examination, the mitral orifice was found in a state of stenosis; but in spite of this she had not complained of cardiac discomfort until her stomach became so distended with food and wind after her breakfast, that the heart's action was fatally arrested within ten minutes from the time that she began complaining of the cardiac dyspnœa. There are special reasons for my remembering this case, seeing that it was from her womb that I removed, by the Cæsarian section, a living seven-and-a-half months' child, now grown up to be a man, and father of a family. The case was read by Professor (afterwards Sir) James Y. Simpson, before the Edinburgh Medico-Chirurgical Society, and published in the July num-

ber of the *Edinburgh Medical Monthly Journal*, 1850. Just as it is the last straw that breaks the camel's back, I think that there can be little doubt that in the above case it was solely due to the trifling additional distension of this woman's stomach by gas, superadded to the hearty meal, and the already diminished abdominal cavity on account of the pregnancy, that the mere wind proved sufficient to totally arrest, by its pressure on the diaphragm, the vibrations of her diseased heart, and thus bring about sudden death. If this view of the case, which subsequent years of physiological as well as pathological experience have led me to adopt, be correct, I think it is well within the range of possibility that had the woman been able to get rid of the wind by belching, either with or without the aid of anti-flatulent, she might have outlived the temporary attack of cardiac dyspnoea, and survived for some time to come, seeing that up till that fatal moment she had been able to do the work of a hospital servant without any apparent discomfort.

Finally, I think it may be said that the various facts adduced in this essay appear to prove—1. That alcohol when indulged in, even well within the limits of intemperance, has a most prejudicial effect on heart disease. 2. That sudden spurts of muscular emotion act most deleteriously on all forms of organic cardiac affections. 3. That mental excitement is a cause of rupture of atheromatous blood-vessels. 4. That a mere extra distension of a stomach by wind may fatally arrest a diseased heart's action. The knowledge of these facts has for some years past led me to make it an invariable rule to impress upon all patients labouring under diseases of the circulatory system, who desire to minimise the effects of their complaints and ward off as long as possible the inevitable fatal termination, to pay strict attention to what I call the following three golden rules:—(1) Take exercise, without fatigue; (2) nutrition, without stimulation; and (3) amusement without excitement.

V.

Effects of moderate drinking upon the brain and intellectual faculties.

From having, in the last chapter, discussed the question of apoplexy, and some of the slighter forms of the cerebral disturbances traceable to the intermediary influence of frequently repeated indulgences in small quantities of alcoholic stimulants upon the heart's action, and the production of atheromatous degeneration in the arterial coats, as the consideration of the effects of alcohol on the brain, when taken in excess, lies entirely outside of the scope and purport of this essay, I at once proceed to call attention to the as yet but imperfectly known subject of the influence of small quantities of alcohol on brain diseases. And it being my desire to make the effects of moderate drinking as strikingly apparent as is possible, as there are no statistics of the effects of it forthcoming, I fall back upon the data furnished in the Registrar-General's reports regarding the comparative ratio of mortality from diseases of the nervous system occurring amongst men between the ages of twenty-five and sixty-five in different industries. For they tell so startling a tale of the baneful effects of taking small quantities of alcoholic stimulants frequently during the day, that no one accustomed to analyse results deducible from collateral evidence can fail to appreciate their intrinsic value in the elucidation of the point in hand. The Registrar-General's report* tells us that the relative mortality is as follows:—

Men exposed to the temptations of nipping.	Diseases of the nervous system.
Commercial travellers	139
Brewers	144
Innkeepers, publicans, wine, spirit, and beer dealers	200
Men not exposed to the temptations of nipping.	Diseases of the nervous system.
Gardeners and nurserymen	63
Farmers and graziers	81
Printers	90
Drapers and warehousemen	109
The above figures speak to the	

* Supplement to the forty-fifth Annual Report, 1885.

reflecting mind in no ambiguous language, so that I need make no comment upon them save to call special attention to the fact of diseases of the nervous system being so much more common among drapers and warehousemen than among the equally in-door occupation of printers. The only tentative explanation which I dare venture to adduce from this fact being that as it is worry, little fidgeting mental worries, that conduce more than mental work (not excessive) to shatter the nerves, the high percentage of diseases of the nervous system met with among drapers and warehousemen is possibly due to their being more liable to be mentally harassed in the course of their daily avocations than printers, who are as a rule not subjected to anything like a similar class of petty annoyances during their work, no matter how arduous it may be. That, at least, is the explanation of the great disproportion between these two trades of nerve affections that I incline to accept until a better is forthcoming.

That after the liver and the heart the brain should be the next organ of the body which suffers most from the injurious effects of alcohol when taken in small quantities at a time is no more than what might be expected. Indeed, I think it is even less, seeing that alcohol acts injuriously upon nerve tissue in three distinctly different ways:—Firstly, through its chemical action upon the blood; secondly, by disordering the liver's functions and causing the bile to accumulate in the circulation, and thereby poison the brain and nerves; and thirdly, by its accelerating the heart's action, and thus sending an increased supply of blood to the brain. Every increase in an organ's blood supply being associated with a corresponding increase in the functional activity of the organ.

The increase of the cerebral circulation consequent upon the increase in the heart's action from the imbibition of small quantities of alcohol acts prejudicially, however, upon the brain in yet another way—namely, by its causing an engorgement and dilatation

of the cerebral arteries. For, seeing that Nicol and Mossop found that so small a quantity as two teaspoonfuls of absolute alcohol caused marked congestion of the retinal blood-vessels—which derive their blood supply from the same source as the cerebral vessels,—it is natural to infer that even the small quantity of two teaspoonfuls of alcohol will induce the same amount of congestion in the branches of the blood-vessels within the cranium as it does in those immediately outside of it. And if so, seeing that the organ is confined within a limited space and surrounded on all sides by unexpandible ridged walls, by their engorgement and dilatation they must of necessity press injuriously upon the brain substance. The pressure thus exerted on the nerve cells and fibres will not only prevent their performing their functions properly, but at the same time interfere with their nourishment, and consequently lead to a degeneration of their constituents. The deleterious effects of congestion of the intercranial blood-vessels are rendered apparent to us in yet another way—namely, by the feeling of fulness or tightness of the head experienced by many persons after partaking of alcoholic stimulants. Moreover, it appears to me that the facts just alluded to afford a reasonable explanation of why it so often happens that persons who indulge in small quantities of spirits while engaged in arduous mental labour frequently suffer from a sudden mental break-down, notwithstanding that the immediate effect of the stimulants had appeared to be beneficial to them by increasing their brain power. My explanation of the cause of the mental collapse is that the brain, like every other organ of the body, while in a state of functional activity, draws to it a super-supply of blood, and consequently, when alcohol is taken, it adds to the already existing engorgement of the cerebral vessels arising directly from the brain's activity, by accelerating the heart's action, and thereby augmenting its deleterious effects by still further increasing the pressure exerted on the nerve cells and fibres by the already dilated and engorged vessels.

We shall now for a moment glance at the injurious effects of small quantities of alcohol exerted on the brain through the intermedium of the hepatic derangements stimulants induce.

The very large number of nerve affections, more especially in the form of intellectual disturbances, which come under the notice of liver specialists, are in a great measure attributable to the disorder of the biliary functions brought about by the habitual indulgence in small quantities of alcohol between meal-times. For, as is well known, scarcely a more formidable cerebral poison than bile exists. So potent, indeed, is the effect of bile circulating in the blood upon the intellectual faculties, that the special name of "*bilæmia*" has been invented for it. And who amongst us does not know, probably even from personal experience, the mental disturbance a mere temporary attack of biliousness produces? Memory is impaired, vision defective, mental labour irksome, the temper irritable, and the spirits depressed. In cases, again, where there is a sufficient amount of bile in the blood to produce jaundice, life sometimes becomes an actual burden. The very word "*melancholy*" is simply a compound of the two Greek words "*black*" and "*bile*," and one of the most distressing forms of insanity which is in general induced by it has been not inaptly christened "*melancholia*." Moreover, acute delirium and even profound coma are no unusual concomitants of bile-poisoning.

Sometimes one learns from a patient a great deal which he may turn to account in the treatment of others, and one of the things a patient taught me was the marvellously depressing after-effects a single glass of spirits will occasionally produce in a bilious patient. A leading member of our own profession, who is a martyr to biliousness, made a number of experiments upon himself regarding the depressing after-effects of alcoholic stimulants, and he tells me that he has repeatedly found that a single glass of gin, whisky, or brandy, taken diluted with water, either at dinner time, or in the evening when he is

bilious, and feels exhausted after his day's work, will be followed in from five to fifteen hours with such a morbid depression of spirits that he scarcely knows what to do with himself: yet the primary effect of the stimulant is, he says, not only refreshing but exhilarating. This, although an exceptional case in so far as its severity is concerned, is but the type of many others that have come under my notice; for some have said that a single tablespoonful of brandy, whisky, or gin, will induce depressing after-effects when their livers are out of order.

The only way in which I can account for this depressing after-effect of small quantities of alcohol when taken by bilious persons, is by imagining that the small amount has the power to exert a more than usually deleterious influence on the cerebral tissues in consequence of their having been already materially weakened by the direct poisonous effects exerted on the nerve tissues by the bile in the circulation. I am led to this opinion from noticing how much less the depressing after-effects of spirits become so soon as the liver's functions are put to rights. The brain and liver disorders induced by alcohol thus appear to be as closely correlated as those of liver and kidney. The mere fact of a splitting headache following upon a debauch in the case of a strong healthy man, and a frontal or an occipital pain succeeding the drinking of a single glass of sherry in a nervously weak one, may be regarded, I think, as proof positive of the detrimental effects of alcohol on the nerve-tissues, as well as lead us to suppose that it is most probably due to the compression of the nerve cells and fibres, which, as I have above tried to explain, may probably arise from the alcohol accelerating the heart's action, and thereby increasing the circulation in the intercranial vessels.

This statement necessitates the making of another—namely, that atheromatous degeneration of both the cardiac and cerebral blood-vessels are particularly common among men of great muscular and mental activity, who are in general spoken of as "good

lives." It may perhaps be on account of my special line of practice that this fact so frequently comes under my observation. Still I think all who have much to do with the higher class of our city men, who as a rule not only live well, but strain their brains in the counting-room, while they at the same time keep up their muscular development by rural sports, must have noticed that often a sudden, and at first sight unaccountable breakdown, takes place in them between fifty-five and sixty-five years of age. Most of them will tell you that they never before had a day's illness, and although the very picture of health, they nevertheless complain of shortness of breath on exertion, giddiness, and diminished mental power, coupled with digestive and urinary derangements. In fact, it seems as if, all of a sudden, the liver, kidneys, heart, and brain, had all at once begun, as it were, to strike work. I have at this moment two of this class in my mind, both of whom died suddenly; one of cerebral apoplexy from a blood-vessel in his brain giving way, the other from cardiac syncope; and both, I believe, threw their lives away by fancying the doctor's restrictions were uncalled for, and continuing to live as they did when in perfect health, instead of giving up business and treating themselves as invalids as soon as they began to experience giddiness and shortness of breath.

I have now to call attention to what appears to be a reverse kind of preliminary effect on the nervous system—namely, that which is observed in the incipient stage of intoxication, and is almost invariably spoken of as a pleasant instead of a disagreeable sensation. Although I imagine that when a small quantity of an alcoholic stimulant is taken, the pleasurable

feelings experienced may be probably entirely due to its increasing the cerebral circulation, I nevertheless think that when the amount taken is sufficient as to be ultimately able to lead to complete unconsciousness, the preliminary stage of the intoxication, which has been described by some as one of sweet *sans souci*, is simply the offspring of a blunting of nerve sensibility—in fact, merely a partial or incipient stage of cerebro-spinal paralysis. Precisely in the same way as feelings of a pleasing calm are oftentimes felt to precede the total unconsciousness of refreshing sleep, and soothing sensations of agreeable beatitude have been described as their feelings by persons who after a lingering illness have quietly and peacefully slipped away into eternity. In all of these cases the pleasurable sensations experienced are merely, I believe, due to the gradually increasing negation of nerve sensibility.

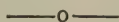
Lastly, as regards the deleterious influence small quantities of alcoholic stimulants exert upon the brain tissues through the power they possess of so acting on the nerve pabulum in the blood as to prevent its taking up oxygen and exhaling carbonic acid, and thereby becoming fitted for the purposes of brain nutrition. Alcohol does this exactly in the same way, though to a somewhat lesser extent, than opium. This is well shown by the results obtained from a series of experiments I performed on the subject some years ago, a full account of which was laid before the Royal Society, and published in its Transactions in 1864, under the title of "The Action of Physical and Chemical Agents upon the Blood, with special reference to the Respiratory Process."

The relative effects of alcohol and opium were found to be as follows:—

In 100 parts of air.	Oxygen.	Carbonic Acid.	Nitrogen.	Vol. at 0° C. and 1 metre pressure.
Composition of employed air ...	20·9	0·002	79·038	20·96
With pure ox-blood ...	10·58	3·330	86·09	14·91
" " " of alcohol... }	16·59	2·380	81·03	18·97
With pure calf's-blood ...	6·64	3·47	89·89	10·11
" " " of morphia }	17·17	1·00	81·83	18·17

A glance at this table suffices to show that alcohol, even in the small proportion of 5 per cent., exerts a powerful chemical effect on blood, so powerful as to entirely derange one of its most important functions—namely, the function of respiration. The alcohol seems to have acted like an asphyxiant, inasmuch as it has not alone diminished the power of the red corpuscles to absorb oxygen, but to exhale carbonic acid, and that too in the same way, though to a somewhat lesser extent, than morphia does. This peculiar chemical action of the alcohol on the blood nerve-pabulum may be thought to give a reasonable explanation of the paralyzing action of alcohol upon the nervous system, see-

ing that oxidation is the motor power of all vital action, and in direct proportion to its activity are the manifestations of life accelerated or retarded. Every breath we draw, every movement we perform, every thought we think, is but the outcome of the transformation of matter under the influence of oxygen. If, then, it be true, as above shown, that alcohol possesses the power of preventing the constituents of the blood from being properly oxidised, and thereby fitted for the purposes of nutrition, it is easy to account for its producing a chain of more or less well-marked neurotic symptoms terminating at last in coma and death.



CASES OF ALCOHOLIC PARALYSIS.

(From the *British Medical Journal*, February 11).

MRS. W., a widow, aged forty-four, complained first, in March, of shortness of breath, mentioning incidentally she was unable to move much in bed, owing to loss of power in her legs. There was a cavity in the left apex and moist *râles* at both bases. The heart was weak, but free from valvular disease. The temperature was slightly raised, the pulse rapid, the breathing shallow. She had been in bed some weeks, having first been laid up with "rheumatic" pains about the legs, and with cough. The urine was loaded with lithates, though otherwise healthy.

The lower extremities were para-

lysed, and there was considerable difficulty in raising one foot over the other; there was tenderness over the whole body on deep pressure, and sharp pains occurred frequently about the legs, lasting but a short time, but bad enough to make her call out and to keep her awake. No patellar, plantar, or other usual reflexes could be obtained, and there was no ankle clonus, but acute pain was caused by slight attempts to get this phenomenon. The toes were reflexed and the feet hung helplessly. She could distinguish heat and cold fairly well, but the prick of a pin gave an indistinct impression. The palmar grasp was

feeble; the co-ordination of muscles of the upper extremity was fairly good. The sphincters acted satisfactorily. The muscles were greatly atrophied.

On April 28th she was attacked with left hemiplegia, which left her speechless, and with only the right upper limb unparalysed. The left pupil was dilated to twice the diameter of the right. There was no recovery from this attack, and the patient died about twenty-four hours from the onset; no necropsy was permitted. In all, the paralysis ran a course of six or seven weeks. When I was first called in it was so slight as hardly to attract the patient's attention, but rapidly became worse, so that in about a month from the first symptoms the patient was practically helpless.

S. H. APPLEFORD, L.R.C.P. Lond.,
Finsbury Circus. M.R.C.S.

(From the *Lancet*, February 11.)

ST. THOMAS'S HOSPITAL. — The principal points of interest in the following case to which we would draw attention are so clearly indicated in the remarks by Dr. Ord appended to it that we refer our readers to them. For the account of the case we are indebted to Dr. W. W. Ord, house physician.

C. R—, a barmaid, aged twenty-four, was admitted on September 13th, 1886. Her family and personal history was good. She had been quite well up to three months before admission, when she began to have pains about the limbs, and her urine became thick. She was treated for rheumatism. Three weeks before admission she began to be delirious. For eighteen months before admission she had been in the habit of taking port and gin in considerable quantities in the pursuit of her calling.

On admission, the patient appeared to have been losing flesh. She was very wild-looking, and was constantly muttering in an incoherent manner and throwing her arms about. She lay for the most part on the right side, with her arms stretched out in front of her and with her legs curled up. There were occasional movements of the legs, not so marked as those of the

arms. All the movements were increased on exertion or excitement. It was seldom possible to understand what she said, as her voice was a thick, incoherent whisper. She gave her name correctly. She could not sit up in bed, and any attempt to move her caused her to shriek out. The spinal column was normal. She was quite quiet during sleep. She passed her evacuations unconsciously. The muscles of the calves were tender and wasted, especially on the left side. Reflexes were not obtained. There was a slight rise of temperature up to 100.4° . The abdominal and thoracic organs were healthy. Pulse 126, feeble; tongue dry and brown; teeth covered with sordes. There was no albuminuria.

On September 26th the patient had a slight rigor, followed by intense dyspnoea and lividity. Respirations 54; no movement of the diaphragm. She was relieved by subcutaneous injection of ether. She began to get more sensible about this time, but was still rather unintelligible on account of thickness of speech. She suffered a great deal from insomnia. She had a similar attack on September 30th. After this seizure she was quite sensible for a short time. Temperature varied between 97.2° in the morning and 100.2° at night. In the beginning of October she began to have delusions, saying that she saw and heard strange things about her. The muscular tenderness had become more marked, and was pretty general. She did not cry out, but frowned and groaned when pinched. She had lost flesh since admission. The urine had a specific gravity of 1020, with a trace of albumen. Chloral and bromide of potassium had no effect on her, and she slept better without them. The deep reflexes were still absent. The right leg was more wasted than the left. The feet were somewhat inverted. The flexor muscles of the legs began to contract. The patient lay with the thigh flexed on the body and the leg on the thigh. Any attempt to straighten the leg caused the most intense pain. On October 11th she was ordered the faradic current daily.

About this time she began to complain of loss of power in the arms; and when the arm was lifted the wrist dropped. She also complained of sickness and pain down her back. In the beginning of November the muscular pain began to abate; the muscles of the arms reacted fairly to the faradic current, those of the legs less so. The larynx was normal. She began to use her diaphragm slightly in respiration. There was no albumen detected in the urine at this time, and no sugar. On November 30th the patient's eyes were examined by Mr. Nettleship, who found that there was severe retinitis in both, with white patches and bright white dots. The discs were very little affected. The changes were most marked in the right eye. Mr. Nettleship considered that these signs must point to the presence of either renal disease or diabetes, but the urine was examined repeatedly about this time, and no albumen, no sugar, and no casts were found; there was always an excess of phosphates. On December 17th several fresh flame-shaped hæmorrhages appeared in the left eye, and on the 21st a trace of albumen was detected in the urine, which was of specific gravity 1027 and acid. On the 22nd the following note was made: "Heart dulness begins at the third rib and extends four inches to the left of the sternum; apex beat in the fifth space in the nipple line; second sound accentuated at both bases; some arterial tension." In the beginning of January, 1887, the patient, whose legs had been immovably flexed so that the heels almost touched the buttocks, began to regain slight power of extension. The muscular tenderness diminished, but forcible extension still caused great pain. She began to feed herself a little, but she was unable to write. Her mental condition began to improve. She suffered from no delusions, was cheerful in demeanour, and recognised those about her. Throughout February she continued to improve both physically and mentally; her urine still contained a trace of albumen, but no casts were found. On April 13th the albumen disappeared from the urine, and never

returned. The legs were now flexed at about a right angle at the knee joint; forcible movement caused great pain behind the knee; voluntary movement was limited to two or three degrees. The hands had recovered power to a great extent, the left more than the right. The muscular tenderness still remained. On May 13th the constant current was ordered to be applied to the legs for ten minutes daily. In June the hands had so far recovered that she was able to sign her name fairly legibly. The legs were much straighter, had regained power, and to a large extent had lost the pain and muscular tenderness. The calves began to increase in bulk. Examination of the eyes showed two or three dull white patches on the right side, one larger than the rest, around the vessels just above the disc. On the left side were a few very small white patches; no hæmorrhages were seen; the discs were clear in outline. On July 13th further examination revealed a dull white more or less uniform patch just above the right disc; there were numerous pigmented spots in the outer part of the field; in the left eye there was a group of small very bright white spots to the lower and outer side of the disc; and similar spots were scattered about the field. No fresh hæmorrhages; discs normal. On June 16th the patient got up and hobbled about with assistance, but the movement caused her intense pain. There was still some contracture at the knees. The ankle joints were very loose, and there was a good deal of contraction of the calf muscles, especially on the right side. In August the calves had increased two inches in circumference since April, but the legs could not be straightened. Accordingly, on Sept. 3rd, an extension of the weight of 6 lb. was applied to the right leg; and on Sept. 11th an extension of 10 lb. was applied to each leg. Under this the legs began to improve both in position and in size. The urine was repeatedly examined during the summer, but nothing abnormal was found. Muscular tenderness had now entirely disappeared, and only very forcible extension caused

pain at the joints. The condition of the eyes remained the same. On Nov. 8th the patient was put under ether, and the legs were forcibly straightened by Mr. Battle. They were afterwards put up in plaster-of-Paris splints. She complained of great pain for the next two days. On Nov. 19th the splints were removed, after which the contracture at the knee began slowly to recur. On Nov. 25th the patient was again put under ether, and the legs straightened and put up in plaster by Mr. Battle. The right tendo Achillis was divided subcutaneously. The splints remained on for a week. On Dec. 10th the knees were again straightened under ether, and the legs placed perfectly straight; the feet were also put up at right angles to the legs. The splints were removed on Dec. 14th. After this the knees remained very straight, but the feet again became rather pointed. Accordingly on Jan. 3rd, 1888, Mr. Battle again put up the feet at right angles to the leg in plaster splints. These remained on for a few days, and on removal the feet were found to be in a satisfactory condition. The patient now began to take regular exercise with assistance, and on Jan. 21st had so far recovered that she was able to walk out of the ward only just leaning on her husband's arm, having been in hospital for sixteen months.

Remarks by Dr. ORD.—It may be remarked that this patient, in addition to well-marked symptoms of alcoholic cerebral disturbance, presented when first seen the signs of alcoholic paraplegia in a most typical form. She had already great loss of muscular power in the extremities, particularly in the legs. The muscles were wasted and relaxed, so that the foot, for instance, when the leg was shaken, shook like the distal blade of a flail. Muscular hyperalgia was strongly present, and the reaction of degeneration was marked. The knee jerk and other deep reflexes were entirely absent. Yet with all these indications of loss of tonicity, contracture was present

from the first, the flexors being evidently less relaxed than the extensors, and the muscular hyperalgia preventing any passive restoration of the balance. If there be anything which can be called paradoxical it is such a condition. In relation with the marked evidences of dystrophy of muscles may be noted the condition of the skin. In the earlier days of the patient's stay in hospital, the skin, particularly of the legs, was uniformly pallid, limp, and dry. At a later stage, when, the muscles being found to react under faradism, that form of electrical stimulation was regularly applied, the skin underwent a remarkable change; it became pink, firm, and slightly moist. The occurrence of a retinitis practically indistinguishable from albuminuric retinitis is a point which has strongly attracted my attention. Every effort was made to discover signs of mischief in the kidneys. The urine certainly presented no signs of acute nephritis. If any renal disease were present, it must have been interstitial nephritis. The albumen discovered at any time was extremely small in quantity; there were no decisive alterations in the quantity or specific gravity of the urine, and no indications of renal disease could be discovered by the microscope. Yet there was very marked arterial tension and distinct enlargement of the left ventricle, associated with the changes in the heart sounds which are recognised as indicating considerable arterial tension. All these, after lasting some months, passed away. The question arises whether the retinal changes were due to renal mischief, or were possibly due to a peripheral neuritis of alcoholic origin. The surgical treatment adopted by Mr. Battle in the later stages was not only absolutely necessary on account of the extreme contractures, but was also remarkably successful. Faradism of the extensors, which was steadily applied, had failed to relieve the contracture, and in my opinion nothing but surgical assistance could have completed the cure of the case.

AN ADDRESS ON ALCOHOL IN MEDICINE. *

By C. BINZ, M.D., *Professor of Therapeutics, Bonn.*

SINCE that time—and indeed much earlier—when the shrewd Christian missionary St. Paul, with his extended experience, advised his pupil Timothy to drink wine instead of water because his stomach was weak and he was often ill, down to our own day wine has never ceased to be a medicine. But as everything circles round in everlasting change, so in the case of wine. In consequence of the progress of the healing art, from thirty to fifty years ago it was nearly proscribed. In 1844, Dr. Kirchgasser felt himself obliged to publicly vindicate himself for ordering his typhus patients pure champagne instead of freely diluted wine. C. O. Weber, the distinguished Heidelberg surgeon, gone alas, too soon! said in 1865 that it was a serious matter to give wine to patients suffering from fever, as the English did; that wine was injurious at the commencement of all fevers, that it raised the temperature he had repeatedly satisfied himself of it by thermometric observations. To-day we have progressed so far with what our fathers and teachers placed under ban, that representatives of scientific medicine think themselves called upon to utter a caution against the abuse of alcohol at the bedside. First of all we were met with the dogma that alcohol was not a stimulant. What stimulating properties had been attributed were only the results of commencing paralysis of certain nerve apparatus, never of a direct vivifying. Spirits of wine had only a paralysing action. Even the apparent cerebral and cardiac activity proved nothing. The former was produced by depression of the principal central parts in which we elaborate judgments and criticisms of ourselves and the outer world; the latter by all the external stimuli subject to which we were in the habit of consuming alcoholics. That

alcoholic drinks aided digestion was a complete deception. The exact opposite of this was the case, even with moderate doses.

The experiments undertaken in the way of establishing the stimulating action of alcohol were then detailed, showing that alcohol strengthens the pulse, or causes stronger and quicker contractions of the left ventricle; this therefore does more work in a given time, and its pauses are shorter. The blood moves more freely than usual through the capillaries. Albertoni and Lussana, of Padua, have measured the blood pressure of dogs to which alcohol had been given. If the dose was small, if it reached the heart slowly, arterial pressure was heightened. In other cases it was lowered.

As regards respiration, this, next to the action of the heart itself, most important vital function, nothing has been determined by any experiments up till lately. This has lain in the incompleteness of the methods employed. Zunz has been the first to show that small quantities of alcohol increased respiration in healthy individuals, *i.e.*, the quantity of air inspired and expired, by an average of 9 per cent. All this we must confess is not much. It even seems right to attribute the increased pulse-rate to the dilatation of the arteries and capillaries, for we know that the heart works with more power as soon as the arterial channels become wider. That is a compensating arrangement for keeping up the blood pressure, which with an equable quantity of blood equals the product of the strength of the cardiac contractions with the number of them and with the narrowness of the arteries. The second factor increases as soon as the third gives way. But this consideration does not hinder the possibility of employing alcohol usefully in disease where the freer, fuller flow of blood to the vital organs, may be a vivifying and life-saving stimulant.

As regards the influence of alcohol

* Delivered before the Seventh German Medical Congress, Wiesbaden, April, 1888.

on the secretion of the digestive fluids, it is correct that the majority of the theoretical investigators believe that they have determined a retardation of the process under its influence. But there is no lack of experimental contradictions to this. It appears to me in the first place that here also the large or small dose has the casting vote, and that secondly, in diseased conditions, the matter may be quite different to what it is in health. Practical experience has to solve this part of the problem. The solution will not be everywhere against alcohol as an intestinal stimulant. Everyone has opportunities of proving that mild forms of dyspepsia are often removed by the stimulus of small doses of a good concentrated alcoholic.

A matter of great importance is the decision as to the nutritive value of spirits of wine in disease. We can by this naturally only mean the respiratory value, not its value as a builder up of tissue. With the view that alcohol passes out of the body *en totalité et en nature* there could not of course be any talk as to its nourishing power. This view had become so firmly grounded that earlier German labours with an opposite result, a later English refutation, and fresh researches of my own pupils are not able to make headway against it. A thorough investigation in my laboratory had given the result, that with moderate doses of alcohol, most passed out through the kidneys and lungs, a much smaller quantity through the skin, and not any through the intestines. Altogether about 3 per cent. thus passed out. Heubner, in conjunction with the author, had before ascertained that in pyrexial diseases the excretion of undecomposed alcohol through the kidneys was within the above-named low figures, and often nothing at all. Alcohol can only be burnt off in the system into carbonic acid and water. Where it is burnt, however, it produces warmth, and this can be made use of, as a vital power for keeping up movements without the continuance of which we could not exist. The simple arithmetical use of calometrical works shows that

a litre of medium Rhine wine is equal in nutritive value to five or six meat-spoonfuls of easily digestible oil, over which it has the great advantage of immediately and directly raising the functional activity of organs, and of passing without difficulty into the lymph and blood channels. Above all, however, albumen is spared. The physiology of nutrition teaches us that the decomposition of albumen is slight, so long as there is a supply of hydrocarbons, or other combustible substances present.

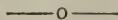
In agreement with this, we see in the urine the products of the decomposition of albumen diminish when moderate quantities of alcohol are taken. That is a fact concerning which all investigators have been agreed, the only one in the whole pharmacological question of alcohol in which no marked contradiction has cropped up.

So far as theoretical investigation has anything to say I hold the question: Is alcohol a food? to be settled in the affirmative. How, however, does the teaching of modern pharmacology agree with this fundamental truth, where alcohol affects temperature measurably it does so generally in the direction of reduction? The answer to this question conducts us to the third chief property of alcohol, that of a reducer of body warmth under certain conditions. When some physicians give alcohol in large doses in pyrexial diseases an improvement of the general condition is often observed. This could not happen if the general view were correct that it heated; consequently as regards fever heat, it is at least indifferent. In healthy adults, the introduction of small doses, especially in a concentrated form, causes a distinct feeling of increased warmth in the stomach and later on in the skin, but no change in the thermometer placed in the rectum. Narcotising quantities lower the body heat several degrees, and for several hours. The cause of the deception under which the drinker of alcohol labours lies in two local conditions; the stimulus dilating the blood-vessels of the stomach, and dilatation of the

cutaneous blood-vessels. Both are perceived by the nerves of both organs as increased warmth, and as we are accustomed to estimate the warmth of our bodies by the feeling of warmth in the skin, it could not be otherwise than that, up to the time of accurate thermometrical measurements, alcohol should pass as an undoubted warming agent.

All that I have said in favour of alcohol, relates only to the diseased individual. The healthy man needs no stimulant for his heart, his circulation, his respiratory centre, his

stomach, and his intestines; he who is sufficiently fed requires no sparing agent for his body, no substitute for his albumen; the apyrexial individual requires no cooler for his warmth. If the healthy man takes alcohol in any form it can only be done under the name of pleasure, or under that of refreshment, after severe mental or bodily work. In both cases, however, moderation is the indispensable condition, for close behind lies the poison garden of alcohol with its numerous, many-visaged, species. — *Medical Press*, May 23.



THE WIESBADEN CONGRESS ON ALCOHOLISM.

ON the 9th April, the seventh Congress of German Physicians, reinforced by investigators and special practitioners from all parts of the empire, met at Wiesbaden, under the presidency of Prof. Leube of Wurzburg. The feature of the Congress was the paper by Dr. Binz of Bonn, and the debate that ensued, on "Alcohol as a Remedial Agent." Having shown the alternating affirmative and negative views held in recent years on the efficacy of this agent, Dr. Binz maintained that the preponderance of English authority was in favour of the former, and that this view was being reinforced by German original investigators, who, like Zunz, had with much cogency advocated the non-heating and distinctly efficacious virtues of alcohol. Dr. Binz set himself to prove—(1) that alcohol has a value, not represented by any other agent in heart failure and lung disease; (2) that it is a *Sparmittel* (economic factor) in the organism, because it is consumed therein; and (3) that it operates as a controller of pyrexia and fever. On the sick-bed its virtues are invaluable; but in the healthy subject it is difficult to define where its abuse is not felt. For the man in good health needs no stimulation; no artificial economiser of energy, or replacer of albumen; no depressant of temperature. All that can be proved in favour of alcohol in

such a case is its power of renewing cerebral energy when lowered by mental work. Even here moderation in well-watered alcohol is imperative. Dr. Binz further contended that alcohol consumption between meals, especially in the form of beer, is a great and, in Germany, a national evil, practised as it is in the stuffy atmosphere of cellars, and that, too, for hours. Not only do the secondary products of beer exhaust the system and induce an adipose habit, but the habitual beer-drinker is as much an alcoholic as the drinker of drams; with this difference, that he has not the excuse of the latter in that moral wretchedness for which spirits are an immediate though in the long run a fatal remedy. Remembering all this, Dr. Binz concluded that there was a large, not to say an increasing, group of maladies—maladies in which idiosyncrasy was an important factor—where alcohol was imperative, and where no substitute for it could be found. In the discussion which followed, Dr. Binz was supported by Professor Jaksch of Graz; while Dr. Nothnagel of Vienna put in a special *caveat* against the exhibition of alcohol to children. The whole treatment of the question, as officially reported, will have much practical force, not only for the physician, but for the public hygienist and the legislator. — *Lancet*.

BRANDY AS A MEDICINE.

An interesting case—*Russell v. Martin*—was tried in the Brompton County Court, before Mr. H. J. Stonor and a Jury, on Tuesday, 10th April.

The plaintiff, Mr. F. J. R. Russell, surgeon, of 48, Lupus Street, claimed £13 7s., balance of account for medical attendance on the wife of Mr. Thomas G. Martin, of 3, Phené Street, Chelsea, from October, 1886, to June, 1887.

The defendant claimed £35 damages for alleged negligence and unskilful treatment of his wife by plaintiff, whereby his wife was made seriously ill, and he was deprived of her services and lost time and wages in attending upon her, and incurred expenses for medical attendance, nurse, &c.

Mrs. Martin, wife of the defendant, stated that she was suffering from a tumour when she consulted the defendant, who ordered her brandy, and she from time to time took a good deal. It did not agree with her, so she left it off. She took more than forty bottles of brandy by order of the doctor. Her eyesight was bad, and she did not know what she was about after she had the brandy. When she found the brandy disagreeing with her, she told the doctor that her sister did not agree with her having the brandy, and he said she must have it.

The Plaintiff said that when he was called in Mrs. Martin was suffering from a tumour, and he treated her in the best way he could. He recommended her to take to her bed, as rest was absolutely necessary. He recommended brandy in small quantities. He was not in the habit of prescribing bumping glasses; he may have said how much was to be given, but never a whole wine-glass at one time. He was not quite certain how much he prescribed. He was never made aware of her having so much; if he had been he would have altered it. He was aware that Mrs. Martin objected on one occasion to the brandy, and he altered it to wine.

Three medical witnesses were examined. Dr. Lehane said he should have prescribed a certain quantity of brandy—3 ozs. in twenty-four hours at the outside—unless the patient was in the last stage of consumption. An ounce was about two tablespoonfuls. Dr. W. Meredith said he should not have given an unlimited quantity of brandy to such a patient. From the evidence he had heard, he thought the treatment was judicious, with the exception of the quantity consumed.

Dr. Webb stated that brandy in medicinal proportions was a proper thing to give.

His Honour: But surely, in prescribing brandy, you fix a limit to the quantity to be given?

Witness: Certainly. Certain proportions so many times a day in water. To patients in a low condition brandy may be food and nourishment.

In summing up, the judge said it certainly seemed strange that the plaintiff should have been in daily attendance without exercising closer supervision over the administration of the brandy.

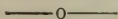
The Jury stated that they had awarded the plaintiff, Dr. Russell, £3 for his attendances from October, 1886, to February, 1887, calculating it to represent twenty-one visits at 2s. 6d. each. They had allowed him nothing for attendance on Mrs. Martin from February to June. On the counter-claim they had awarded the defendant, Mr. Martin, the sum of £15 in all, being £5 for loss of his wife's services from February to June, £5 the expenses of the nurse, and £5 the cost of brandy.

His Honour confirmed this award, and, on being applied to as to costs, made an order for the payment of costs for counsel, solicitor, and one witness for the plaintiff, and solicitor and all witnesses for defendant.

ALCOHOLIC NEURITIS.

A NEW contribution to the histology of peripheral neuritis has been made by Professor Eichorst of Zurich.* The case he describes is that of an habitual drunkard, who died from alcoholic paralysis after six weeks' illness. The symptoms began with inco-ordination and then paralysis of the legs, followed by paralysis of the extensors of the wrist, with rapid wasting of the paralysed muscles, tenderness of the muscles, some cutaneous anæsthesia, abolition of reflexes, and ultimately vesical and rectal paralysis. At the post-mortem examination, no gross lesions could be seen in the nerve centres. The brain was not examined microscopically, but the cord showed some asymmetry in the anterior cornua, and some recent hæmorrhages in the grey matter in the dorsal region, with thickening of the blood-vessels—changes which did not suffice to explain the general paralysis. The spinal nerve roots were found to be normal. The tibial and radial nerves, on the other hand, were found to be profoundly diseased, osmic-acid preparations showing very extensive degeneration and atrophy, with absence of the axis cylinders in a large proportion of the nerve fibres. Tracing the nerves to their peripheral terminations in the muscles, Professor Eichorst found the lesions to be more advanced and complete there than in the nerve trunks. Indeed, within a muscle there was not a single normal nerve fibre. Nor were the lesions of these intramuscular nerves limited to degeneration as in the nerve trunks; but each degenerated fibre was surrounded by numerous laminae of connective tissue

produced from the endoneurium and perineurium. It would seem as if the existence of the degenerate nerve substance had excited inflammatory change around it. Another remarkable fact was that the muscular fibres did not exhibit the trophic changes usually met with in neuritis, although in the vicinity of the diseased nerve-endings the muscular fibres were atrophied apparently secondary to the perineurial lesion. Professor Eichorst therefore proposes to term the condition "neuritis fascians," as denoting what he considers to be the essential feature of the change—viz., the inflammation of the nerve sheath, and the extension therefrom to the interstitial tissue of the muscles. He points out that similar changes in muscles have been described by Fraenkel in phthisis, and by Eisenlohr in infantile paralysis; the former raising the question whether the ensheathing bands of connective tissue arose from the blood-vessels or the neurilemma. Eichorst does not infer that neuritis fascians is special to alcoholic paralysis, but that it is an important feature of it. Certainly the clinical phenomena of "peripheral neuritis" harmonise with the occurrence of lesions within the muscles themselves, and we may direct the attention of pathologists to the more precise determination of such lesions, which in all probability precede the degeneration of fibres observed in the nerve trunks. The latter change has been amply studied, but the former, and indeed the essential change, has not as yet been much dealt with. — *Lancet*, May 19.



A CORONER ON TOTAL ABSTINENCE.

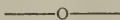
At the annual meeting of the Church of England Temperance Society, held in the Old Grammar School, Coventry, on Monday evening, 13th February,

the chair was taken by Dr. C. W. Iliffe, coroner for North Warwickshire, who said that probably a great number of those present were abstainers, but there were others who, like himself, were moderate drinkers.

* Virchow's Archiv., cxii., Hft. 2.

Probably: there was no necessity for him to become a total abstainer, as he had stood the test of five-and-twenty years, during which time he should think the amount of spirits he had drunk would not exceed one pint. Therefore he might consider himself a fairly temperate man. But he could keep them until ten o'clock telling them of all the *sinful, immoral, and degrading things he had noticed during that time as the effect of drink. Referring to one case which he had observed, the doctor said there was no half measure for the drunkard, no partially doing the matter, such as reducing the amount consumed gradually to half a pint a day, and then giving it up altogether. That was all a pack of nonsense. He never saw a case in his life where reformation had come from such an absurd idea as that. He considered it necessary that a law should be passed by the Legislature whereby it should be just as easy to take hold of the dipsomaniac as it was to confine the maniac. Nothing would be more likely to deter a drunkard than to imagine that he had the relieving officer or police officer ready to take him to a home for dipso-

maniacs. As coroner he had held now very nearly a thousand inquests, and he could attribute at least 33 per cent. of the whole causes of death to drink. He had come to this conclusion, that although his mind was steadfast enough not to be obliged to be a total abstainer, he might say "Thou almost persuadest me" to become a total abstainer. But it would be a very slight wrench indeed for him. He need not call their attention to how much better it was to commence life than to end life as a teetotaler. As medical officer of the workhouse, he could tell them that they had at last been able to get the beer out of that institution, and he never knew the nursing of the sick better carried on, and never saw the inmates more happy or more cheerful. In conclusion, the chairman said that, especially where there was any taint of hereditary drunkenness, it was far the best to abstain, for this taint might crop up, if not in this, in a future generation. It descended from generation to generation, and the only remedy was to be total abstainers, rigidly strict in the performance of the pledge.



ALCOHOL AS A MEDICINE.

THE new number of Dr. Richardson's unique periodical, *The Asclepiad*, (Longmans, Green & Co.), contains a valuable paper of twenty pages on "Alcohol at the Bedside," which is worthy of the careful attention of our readers. We give the following extracts:—

"Between the general use of alcohol as a supposed food or luxury, and its use as a medicinal agent, there is the broadest distinction—a distinction as broad as that which exists between opium as a food to the opium-eater and opium as a medicine for the sick; and I have never given up the medicinal use either of opium or of alcohol. On the contrary, it has been my steadfast study to learn, with all possible accuracy, the therapeutical value

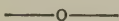
which alcohol really possesses; to compare it, in respect to its action, with other medicinal agents with which it is therapeutically allied, and to make sure when to administer it, and how to administer it with prospect of good and certain success.

"In my lecture on the alcohols, published so far back as 1869, in the *Medical Times and Gazette*, I wrote:—'Alcohol, one of the most commonly used of accredited remedies, has never been properly tested as a remedy for human diseases. I mean by this that it has never been tested as alcohol of a given chemical composition, of a given purity, and in given measures. Wines, beers, and spirits are anythings, compounds of alcohols, and compounds of alcohols with ethers, and other foreign

substances. It is time now, therefore, for the learned to be precise respecting alcohol, and for the learned to learn the positive use of one of their most potent instruments for good or for evil.'

"In the nineteen years that have passed since that was published, I have steadily followed out the practice there suggested, and for fifteen years past have never prescribed alcohol in any other form than the '830 ethylic alcohol—the ordinary pure but not quite absolute alcohol of commerce. I have known, therefore, in prescribing alcohol, for these years, the precise thing prescribed, which is, I think, what few can say. I have by this means learned the value of dose, as well as of action. If I have wanted

any other of the agents that belong to alcoholic beverages—the bitter of hop, diastase, an ether—I have added it in the same precise manner, and I most respectfully suggest that this is the only way in which alcohol can be scientifically applied in the treatment of disease. The advantage is all on the side of accuracy; but there is another and more cogent reason for this rule. By following it alcohol is kept in the hands of the prescriber and the chemist. When it has served its purpose it can, like mercury or arsenic, or other dangerous remedies, be withdrawn. Ordered, instead of prescribed, as a common drink, the patients become their own doctors and their own destroyers."



SOCIETY FOR THE STUDY OF INEBRIETY.

THE annual meeting of this Society was held in the rooms of the Medical Society of London on Tuesday, 3rd April; the president, Dr. Norman Kerr, in the chair.

MR. CLARK BELL, president of the Medico-Legal Society of New York, read a paper on the "Medical Jurisprudence of Inebriety." As to civil relations, delirium tremens was held to be a form of insanity; intoxication voided contracts; drunkenness incapacitated and invalidated evidence and invalidated marriage if either party was too drunk to know what he or she was doing. American law classed habitual drunkards with lunatics as regards the custody of their estate. Responsibility was a different matter, and this was more severe. Some judges held that intoxication was an aggravation of a criminal offence, but most held that it was simply no excuse. In some cases the frenzy of delirium tremens had exempted from responsibility. The law did not yet recognise inebriety as a disease.

Dr. T. D. CROTHERS, in treating of the study of inebriate criminals, laid

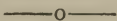
down that the medical history of the accused should be first studied, then the crime. The prisoner's early growth, training, and health would reveal the capacity or incapacity of the brain. Inebriety was often a brain disease leading to the commission of crime.

The President presented the recommendations of the New South Wales Intoxicating Drink Inquiry Commission, that an inebriate home should be opened at the public expense, besides a hospital for the treatment of quasi-criminal inebriates, the evidence having shown that punishment had been a failure, and that inebriety was a disease demanding remedial treatment.

In the discussion which followed, Drs. A. Jamison, Joseph Smith, Hazell, Holthouse, and Surgeon-Major Poole, M.D., took part.

The meeting then adjourned till July 3, when a paper will be read by Dr. G. K. Poole.

Among the new members announced or elected were Professor Forel, Zurich University, and Dr. J. B. Mattison, Brooklyn, U.S.A.



British Medical Temperance Association.

President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

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NOTICES.

Members are requested to inform the Hon. Secretaries of any medical abstainers not yet enrolled in the Association, and to use their influence, if possible, in securing their adhesion.

The Editor of the *Medical Temperance Journal* will always be glad of short original communications of a suitable character.

Members whose subscriptions are two years in arrear are not entitled to receive the *Journal*, but if the *Journal* fails to reach those who are entitled to it, they are requested to communicate at once with the Hon. Secretary.

Enfield, June, 1888.

J. J. RIDGE, *Hon. Sec.*

THE ANNUAL MEETING.

THE Twelfth Annual Meeting of the British Medical Temperance Association was held on Wednesday, May 30, in the rooms of the Medical Society of London. Dr. Richardson, F.R.S., the President of the Association, took the chair at 4 p.m. The minutes having been read and confirmed, the Hon. Secretary (Dr. J. J. Ridge) read the Annual Report and

Balance-sheet, as follows, and moved their adoption :—

Your Council has the pleasure of reporting a considerable addition to the number of our Members and Associates, a clear indication that the practice of total abstinence in the medical profession is making yearly progress.

The statistical returns for the last two years are as follow :—

	MEMBERS.		ASSOCIATES.	
	1886-7.	1887-8.	1886-7.	1887-8.
England and Wales ...	234	244	15	33
Scotland	44	55	11	26
Ireland (Central)	40	46	35	51
Ireland (North)	24	33	10	5
Abroad	9	9	—	—
Total	351	387	71	115

There is, therefore, a net increase of thirty-six Members and forty-nine Associates, and the present total number of Members and Associates is 502. This is very satisfactory, although your Council is perfectly aware that it does not include nearly all the abstainers in the profession. It is specially gratifying to find such a considerable increase in the number of Associates, who are medical students practising total abstinence—an increase of 69 per cent. As regards England, which has more than doubled its number of Associates, this is largely due to the earnest efforts of the Associates in one hospital, St. Bartholomew's, in which there are now nineteen. There is every reason to expect that the rational practice of total abstinence from alcohol and all other narcotics will increasingly commend itself to the judgment of all minds free from prejudice and from the biasing influence of an acquired appetite for such things.

During the year the following papers and communications have been presented at the general meetings in

London :— Statistics respecting the work of the Dalrymple Home for Inebriates, by Dr. Norman Kerr ; Paper on Acute Dilation of the Heart due to Alcoholism, by Dr. W. Pearce ; Paper on Experiments on Alcohol as a Septic Agent, by Dr. J. J. Ridge ; Address on Certain Statements of Sir W. Roberts and Dr. Murray in favour of Alcohol, by Dr. Richardson ; Paper on Alcohol, its Substitutes and Alternatives, by Dr. J. J. Ridge ; Paper on Difficulties of Diagnosis between Disease Symptoms and Drug Symptoms, by Dr. Alfred Carpenter.

The Council has recently issued a circular to more than 2,000 members of the profession, chiefly connected with various hospitals and infirmaries, embodying three declarations respecting alcohol which have been issued at different times during the last fifty years, and asking their opinion respecting them. Your Council would have liked to have sent a copy to every member of the profession, and were only deterred therefrom by the expense. The declarations were, however, published in the *British Medical Journal*

and in the *Medical Press and Circular*, and have attracted much attention. The endorsement of a considerable number of influential men has been obtained, and this cannot fail to exercise a great effect in the right direction. The names will be published shortly.

Your Council, considering that in consequence of certain legislative proposals which will greatly affect the sale and use of intoxicating liquors, some expression of medical opinion should be made respecting the influence on the life and health of the nation, unanimously adopted the following resolution:—"That the Council of the B.M.T.A., having regard to the unquestionable injury, disease, and premature deaths resulting from the liquor traffic, expresses its earnest desire that no obstacle should be placed in the way of refusing the renewal of these injurious licenses by requiring compensation to be given when such renewal is refused." This was signed by the President and Honorary Secretary on behalf of the Council, and was presented to Parliament by Sir John Lubbock.

Two vacancies on the Council having occurred through the withdrawal from office of Dr. Armitage and P. Y. Gowlland, Esq., your Council nominated Dr. Walter Pearce, of St. Mary's Hospital, a life abstainer, and Dr. John Moir, an earnest and energetic abstainer, working actively for the cause in the East of London. Both of these gentlemen have accepted the office.

The branches of the Association are all in a healthy and growing condition, and your Council look forward with confidence to a near future in which the opposition of the profession to the common use of alcoholic liquors will be far more decided and practical than it is at present.

BALANCE SHEET, 1887-8.

	£	s.	d.
To Balance in hand, May, 1887...	10	13	5
„ Subscriptions received	76	11	6
	<hr/> £86 14 11 <hr/>		

	£	s.	d.
By <i>Med. Temp. Journals</i> ...	36	3	1
„ Printing and stationery	8	19	0
„ Advertisements	9	14	11
„ Stamps, postcards, and wrappers	10	10	6
„ Medical Society rooms and attendance	7	13	0
„ Medical Directory	0	10	6
„ Addressing circulars	1	0	0
„ Returned to Scotch branch	0	12	0
„ Balance	11	11	11
	<hr/> £86 14 11 <hr/>		

Audited and found correct,

R. LORD, M.D.

May 30, 1888. W. J. CORYN.

Dr. LORD seconded the adoption of the report, and said that as an auditor he could testify to the correctness of the accounts.

Dr. RICHARDSON expressed his approval, and said there was only one medical society larger than this.

Dr. NORMAN KERR proposed a vote of thanks to the president, secretary, and auditors, and that the latter be re-appointed. This was seconded by Dr. CARPENTER, and carried unanimously.

Dr. RICHARDSON then proposed that Drs. Carpenter, Clark, M.P., and McKendrick be added to the list of vice-presidents; and this was also agreed to.

Dr. RIDGE proposed the alteration of the rule, of which notice had been given, namely, in Rule III. to omit the words, "if joining after October 31st the subscription will be one shilling to the end of the financial year," and to add "all subscriptions shall be due on the anniversary of the first payment. Foreign medical abstainers shall be eligible for election as corresponding members of the Association." This was seconded and carried.

Dr. H. W. WILLIAMS read a paper on "The Alcohol Habit and Medical Authority," which is given in full elsewhere.

After the reading of the paper, Dr.

RICHARDSON remarked on the interesting experiments of Dr. Beddoes on young animals.

Dr. A. CARPENTER said that the paper which had been read was an important collection of facts, and one was delighted to find how many old authorities were in accord with our views. There was one important point in connection with our progress, and that was the necessity for showing that there was or ought to be a complete alliance between sanitarians and ourselves. He could hardly look upon sanitarians as being on perfectly correct lines unless they were promoting total abstinence principles. We could not look upon the history of the country without seeing that the deaths from alcohol, primarily and secondarily, were more than the deaths from zymotic diseases. The latter were preventible, and sanitarians were active in preventing them; and it was extraordinary that they did not also advise that the diseases from alcohol should also be removed by the removal of their cause. By looking at the Registrar-General's returns, we could almost assess the number of public-houses in a square mile by the mortality therein—the number of drink-shops would number with the mortality. Individuals in various cities might do service by sending up particulars of the number of drink-shops and the mortality in various wards or districts. It would be said that it would be due to the varying density of the population, but where there is a high mortality in a densely-populated district, there is more than the density to account for it. It was certainly necessary to get an alliance between sanitary and temperance principles.

Dr. NORMAN KERR said he had been reminded by the paper of several old

stories. Thirty years ago he had known the late Professor Miller, and at that time he was a most determined opponent, and used to say that the total abstainers were the greatest obstacle to the progress of temperance. Six months later he got up and admitted his mistake. Some persons had gone to him and asked if he would revise the constitution of the Edinburgh Temperance Society. He suggested some alterations, and then they said he ought to become a member; and after thinking it over he consented. He once recommended the Rev. Dr. Guthrie to take a glass of wine, and twelve months later he met him at dinner, and was surprised to see him taking it. Having expressed his surprise, Dr. Guthrie told him that it was owing to his advice. Professor Miller told him to leave off, as he had never intended him to take it permanently, and was very careful after that to prescribe alcohol definitely.

Dr. RICHARDSON suggested that four committees should be appointed to make certain investigations, and named certain gentlemen who should form those committees if their consent were obtained. The committees were to be:—

(1) On alcoholism and the consumption of alcohol in France, as reported to the Senate.

(2) On results of practice in the treatment of inebriates.

(3) On the amount of alcohol employed in the public hospitals for the sick of the United Kingdom.

(4) Facts relating to the varying constitutions, additions, and adulterations of the different alcoholic drinks used in ordinary medical practice.

This proposal was agreed to, and, after some remarks from Dr. WILLIAMS, the meeting separated.

IRISH CENTRAL BRANCH.

THE annual meeting of the Irish Central Branch of the British Medical Temperance Association was held on Friday, 8th June, in the Royal College of Surgeons, Dublin. Deputy Surgeon-

General Gunn, President of the Association, presided.

Among those present were—Surgeon-General Joynt, Dr. Eustace, Dr. Boyce, Dr. Thomson, Dr. Chance, Dr.

Collins, Dr. Cosgrave, Dr. Atock, Rev. Dr. Moffat, Mr. K. Kennedy, Mr. Vincent Watts, Mr. D. K. Draffin, Dr. Delahoyde, Dr. Brown Roberts.

Dr. MACDOWEL COSGRAVE, hon. sec., read the report, which stated that the number of members was now forty-six, a gain of five; and of associates (medical students) fifty-one, a gain of sixteen. A hope was expressed that all the abstaining students would join and become readers of the *Medical Temperance Journal*.

The PRESIDENT said it was a matter for great gratification and encouragement that they were progressing, though not so rapidly or to such an extent as they would wish; yet they were progressing, for which they ought to be very thankful, and the cause would be better supported as the profession increased their knowledge of pathology. There were several reasons why alcohol should not be prescribed as a drug. Its active principle was not known.

The public did not get real wine, but concoctions. As a matter of fact, there was no such thing as wine at all. What they got over here was not the juice of the grape—it was a very third-rate medicine, and as an article of diet it was absolutely valueless.

Surgeon-General JOYNT moved that the report be adopted, printed, and circulated. He said it was very encouraging to see that the report showed progress. Dr. BOYCE seconded the resolution, which was adopted.

The officers and council for the ensuing year were appointed, the president and secretary being re-elected.

A vote of thanks having been passed to the Chairman, Deputy Surgeon-General GUNN responded, and, having conveyed the thanks of the meeting to Dr. MacDowel Cosgrave for the able and efficient, yet quiet and unassuming manner in which he discharged his duties, the meeting separated.

NORTH OF IRELAND BRANCH.

A BREAKFAST meeting of this branch was held in the Lombard Cafe, Belfast, on the 19th April, when the following members were present:—Dr. McFarland (Hon. Brigade Surgeon, Army Medical Staff), President; Dr. Mackenzie, Honorary Secretary; Dr. Wilberforce Arnold, Dr. Thompson (Anahilt), Dr. R. F. Sinclair, Dr. W. R. Scott, Dr. Osborne, Dr. Calwell, Dr. McKee, Dr. M. Caw, and Dr. Graham.

The PRESIDENT congratulated the members on the progress of the branch, and said it was gratifying to find so many young men of the profession coming out on the total abstinence side. He believed that Dr. Norman Kerr's estimate of the mortality due to alcohol was under the real truth, as there are tens of thousands of men and women in slavery to strong drink who were never suspected until some crisis revealed it; and drinking was also indirectly a prolific cause of infant mortality. When nineteen deaths occurred in France from hydrophobia

the British Government appointed a royal commission to inquire into Pasteur's treatment, but little had been done in regard to the 128,000 deaths due to drink at home. With regard to prescribing alcohol he was not prepared to say we could do without it, and although some doctors prescribed it too freely, it was not always when a moderate drinker was ill that it was advisable to make a total abstainer of him; but he believed if a standard solution of alcohol marked "Alcohol—Poison" were placed on the chemists' shelves with laudanum and other poisons, it would fulfil every purpose, and the profession would be surprised to find how seldom they would have to prescribe it. He had many years' experience in India, where the natives did not take alcoholic liquors in sickness as the English do; and dwelt at some length upon the danger to our Indian empire from the establishment of the "out-still" system, which he strongly condemned.



MEDICAL DECLARATIONS RESPECTING ALCOHOL.

(From the *Lancet*.)

WE have been asked to publish three separate Medical Declarations respecting alcohol, issued respectively in 1839, 1847, and 1871, and signed by many of the most distinguished men in the profession of the several periods. They were to the effect that men in ordinary health do not require alcohol; that many people immensely exaggerate its value as an article of diet; that the inconsiderate prescription of it by medical men has often given rise to the formation of intemperate habits; and that it should always be prescribed by medical men with as much care as any powerful drug, in such a way as to be no excuse for excess, or for the continuance of its use when the need for it has ceased. Persons willing to subscribe to such propositions are invited to send their names to Dr. J. J. Ridge, Enfield, Middlesex. We cannot give room for the declarations *in extenso*, and we are disposed to think that the good of such declarations is somewhat overrated. Men will often sign a declaration in general terms, when it is known that their individual habits, or their practice and prescription, do not altogether accord with its purport. So it comes to pass that some inconsistency is felt, to the discredit of the declaration or of those who signed it. Let nobody suppose, however, that we are really out of sympathy with the above propositions. The medical man that does not see that alcohol is a very two-edged tool must be ignorant of the literature of his profession and destitute of the lowest powers of observation. He must also be uninformed of the best practice of the leading physicians of his time, which we may without immodesty suppose to be a better time than any anterior period. When men like Dr. Hughes Bennett have treated 150 cases of pneumonia with scarcely any mortality and a very small amount of alcohol; when men like Dr. Gairdner tell us that fever,

especially in the young, does better without alcohol; when men like Dr. Wilks tell us that "in bronchitis he has repeatedly seen improvement where a stimulant has been left off," and that "he is convinced that the mischief done by stimulants in heart disease is immense" (the *Lancet*, vol. i. 1867, p. 506)—those are without excuse who think its indiscriminate prescription in undefined and large quantities a light matter. One other great improvement in our estimate of the uses of alcohol is to view it in regard to the state of the glands and blood-vessels of the patient. If these are blocked, and if the powers of elimination are impaired, it can be easily understood that in more advanced age, when alcohol is thought to be more admissible or even necessary, it must be given with much judgment as to form and dose if harm is not to be done. Dr. Wilks sounded a note in this direction twenty years ago, when he said, "It causes me daily surprise to observe how the effects of stimulation are overlooked," and "if a man comes into our presence with a tottering gait and bloated face, and his nervous energy all gone, you may be quite sure that he has been taking 'strengthening' things all his life." What piece of medical malpraxis can be worse than to see a *bon-vivant*, with a carbuncle on his neck, his arteries distended and excited, and his secretions loaded, treated to a bottle of port a day, or half a bottle, in the view that it is all "weakness," whatever that mysterious word may mean! We have no fresh declarations to make. Our own deliverances on this subject have been anxious and responsible. Alcohol is a powerful remedy in some cases, and it has been intemperately denounced by teetotalers. But it is a fruitful source of disease and degeneration, and the wisest physicians will use it with care and discrimination.

Notes and Extracts.

BRITISH MEDICAL ASSOCIATION.—We understand that the directors of the Scottish Temperance League will entertain the members of the British Medical Association to breakfast on the occasion of their annual meetings at Glasgow in August next.

DISEASE AND INTEMPERANCE.—When on the point of going to press we received the *British Medical Journal* of June 23, containing the report of the Collective Investigation Committee on the Connection of Disease with Habits of Intemperance, prepared by Dr. Isambard Owen, F.R.C.P. The report, it will be remembered, was presented and discussed at the Dublin meeting of the British Medical Association in August, 1887, and was briefly described in the *Medical Temperance Journal* for October last. We hope to notice it more fully in our next quarterly issue.

BEER DRINKING AMONG WOMEN.—"The truth is sometimes unpalatable," said a Chicago restaurateur, "but it is a fact, that I can assert from observation, that many women in Chicago are becoming great beer drinkers. Ten years ago the spectacle of a woman drinking beer while lunching was so rare as to cause comment. Now they come in droves and order with the familiarity of veterans their favourite brands, and many of them have so far cultivated the failing of their masculine brethren that they are not happy unless they also have a plate of Limburger. Wines and stronger drinks are little called for, but the growth of the beer-drinking habit is astonishing, and, although I am in the business, to me it is really alarming."—*Pall Mall Gazette*.

ALCOHOL AND EXERCISE.—The perusal of Dr. Harley's lectures on the effect of moderate indulgence in alcohol, which were recently published

in the *Lancet*, will well repay the time spent upon them. They go far to destroy the idea that exercise minimises the effects of alcohol on the constitution. It is true that a hard-working labouring man can consume with impunity an amount of liquid refreshment which would knock another man on the head; but this is due to the fact that his general health is more robust and better able to resist the toxic effects of alcohol. To other people, mere exercise only adds to the strain thrown upon the heart and vessels, and so intensifies the tendency to lesions of those organs. It is hardly necessary to remark that athletes find alcohol inconsistent with sustained effort, and it is rigorously excluded from their dietary.—*Hospital Gazette*.

STRYCHNINE IN ALCOHOLISM.—Dr. T. J. Korona speaks strongly in favour of the value of hypodermic injections of strychnine in most forms of chronic alcoholism. From five to ten milligrammes were administered daily in divided doses for three or four days, and a mixture containing ethereal tincture of iron and nux vomica, prescribed for internal use. Under this treatment the neuralgic pains in the waist and calf of the leg, shaking of the hands, and the tabetic gait ceased entirely, but no diminution in the size of the enlarged liver could be detected. In acute alcoholism strychnine appeared to have but little effect. In ten of eleven cases the patients stated that after three or four injections, *vodka*, the spirit to which they were addicted, became repugnant to them. In cases where no symptoms had been produced by drink, strychnine had much less effect than in cases of a much more serious description.—*Lancet*, March 31.

LONDON TEMPERANCE HOSPITAL.—At the annual meeting of the London

Temperance Hospital, held on Thursday, 31st May, under the presidency of Mr. Handel Cossam, M.P., the Rev. Dr. Burns (hon. secretary) said that 495 persons were received as in-patients in the eight months from April till December last. Since the commencement there had been received 4,655 in-patients, and 27,000 out-patients. The subscribers had paid £56,000 for these premises, which were now free from debt. One friend, at the age of nearly ninety, had recently died. He was so satisfied with the work done here that he had given £18,000 to the institution in regard mainly to the building fund. About the time that he was ailing another good friend came to their help, and relieved the hospital of a debt of £6,000, so that all liabilities had been cleared off. The Board now wished to raise the annual income to such a point that they could keep as nearly filled as possible every bed in the hospital. They had 120 beds in the building, but were only able to use sixty or seventy. An income of £1,500 a year was required greater than they were now receiving. If they could get 120 beds filled, the moral and the scientific results, apart from those of philanthropy, would be greatly augmented.

THE DRINK QUESTION AND THE MEDICAL PROFESSION.—The *Medical Record* of New York regards the Bill for increasing the cost of licenses to sell drink as the most important subject which has engaged the consideration of the Legislature this season. The ramifications of the misery and the disease caused by drunkenness are known only to medical men, who must wish to see some restriction of a trade so enormous and withal so disastrous. One point might be immediately provided for either in the Habitual Drunkards Bill or the County Government Bill—greater means of punishing publicans who knowingly supply habitual drunkards. It is pitiable to observe the extent to which this is done, even in respectable houses, and if the Legislature could signify its disapproval of what is nothing less

than a crime, it would do a great act of mercy to the drunkards, and do something much needed to increase the respectability of the trade. It is impossible that the organs of the medical profession should be silent on this subject. Drunkenness is not entirely a matter of occasion and temptation, but it is largely so, and drunkards are a numerous and weak class who are entitled to consideration from the State, which, in the long run, has to keep many of them either in workhouses, prisons, or asylums.—*Lancet*, June 9.

THE DOCTOR AND THE DIPSO-MANIAC.—The last number of the *Canadian Practitioner* contains an article by Dr. Daniel Clarke, of Toronto, on the curative treatment of drunkenness. He recognises several categories of inebriates, those whose vice is due to bad company, to inherited neuroses, &c. He points out that the experience of centuries has shown that no method short of personal restraint can be relied upon. Religious and moral influences are only useful when the despotism of disease has been overthrown and reason once more begins to assert its sway. The "drunkard retreats only partially fulfil the object for which they were established." In the first instance, they are only available for the better classes of society, although drunkenness in the lower classes is as degrading, as mischievous, and as difficult to overcome, as among their more fortunately circumstanced brethren in inebriety. The most serious obstacle, however, is the fact that the consent of the individual is required to the curative restraint, and this effort of the will is the more difficult to obtain, the more it has become necessary. What Dr. Clarke would like, would be the taking in hand by the Government of these institutions, with power to sequester confirmed inebriates of all classes. Short terms of imprisonment have no value in breaking the habit and lack the moral influence which can be brought to bear in specially designed institutions.—*Medical Press*, May 2.

THE
MEDICAL
TEMPERANCE
JOURNAL.


VOL. XX.—1889.


LONDON:
NATIONAL TEMPERANCE PUBLICATION DEPOT,
33, PATERNOSTER ROW, E.C.

LONDON:
BARRETT, SONS AND CO., PRINTERS,
GREAT TOWER STREET, E.C.

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THE
MEDICAL TEMPERANCE JOURNAL.

October, 1888.

Original Contribution.

DISEASE AND INTEMPERANCE.

THE REPORT OF THE COLLECTIVE INVESTIGATION COMMITTEE
OF THE BRITISH MEDICAL ASSOCIATION, ON THE INQUIRY
INTO THE CONNECTION OF DISEASE WITH HABITS OF IN-
TEMPERANCE.*

By J. JAMES RIDGE, M.D., B.S., B.A., B.Sc. Lond.

THE publication of the above described report in the *British Medical Journal* has created no small stir in several circles. The medical world has been interested especially by reason of the correspondence to which the publication of the report has given rise; some anti-temperance writers for the press have eagerly seized hold of some of the figures which at first sight seem unfavourable to the temperance cause, saying that "so far from teetotalers having the best chance of life they had the worst;" and the temperance world has been fluttered by the pæans of triumph (albeit premature) which these drink-advocates have loudly sung.

* Prepared by Dr. Isambard Owen, and presented at the Annual Meeting of the British Medical Association in Dublin, August, 1887. Published in the *British Medical Journal*, June 23, 1888.

The report is too lengthy for full insertion in our pages, but it is desirable to preserve some portions of it for future reference.

The inquiry of the Collective Investigation Committee into the above subject was carried on from May 9th, 1885, to December 11th, 1886.

The form of inquiry-paper used consisted essentially of a table containing seven columns. The table was divided horizontally into twenty-five spaces, and each space was distinguished by a numeral placed in the first column. The second, third, and fourth columns were headed "Occupation, or Social Position," "Age at Death," and "Cause of Death."

The contributor to the inquiry was requested to take his death certificate book for the past three years, and to fill in columns 2, 3, and 4, from the counterfoils of his certificates of males over twenty-five years of age, in order as they came.

In column 5 he was requested to append a mark signifying whether the deceased had ever suffered from gout or not, wherever such information was available.

In the 6th column he was requested to indicate the alcoholic habits of the deceased by an index letter, A, B, C, D, or E, corresponding with the following scale of alcoholic classes:—

"Class A.—*Total Abstainers.*

"Class B.—*The Habitually Temperate.*—That is, men who drink small amounts, and only with meals, and rarely take spirits, except for medicinal purposes (the latter part of the definition not to apply to whisky-drinking countries).

"Class C.—*The Careless Drinkers.*—Men who, without being 'intemperate,' or 'free drinkers,' yet do not confine themselves within a rigid rule; who do not demur to drinking spirits occasionally as a beverage; who may at times drink between meals, or even to the extent of intoxication occasionally, but who do not make these practices a habit; and on the average do not materially exceed what has been termed the 'physiological amount' of $1\frac{1}{2}$ ounces of pure alcohol daily.

"Class D.—*The Free Drinkers.*—Men who 'drink a fair amount,' or 'take their wine freely,' habitually exceeding the physiological amount to a material extent; but yet who cannot be called 'drunkards,' or considered to have forfeited a character for sobriety.

"Class E.—*The Decidedly Intemperate.*—'Drinking men,' 'hard drinkers,' and drunkards.'

"If a doubt exist to which of two classes a patient should be considered as belonging, he may be placed between the two by joining the letters, as AB or CD.

"If required, the duration of the patient's latest habits may be indicated; for example, as follows:—

"A 3 yrs. } meaning a total abstainer the last three years of life; decidedly
"E prev. } intemperate previously."

The seventh column was devoted to further remarks on the cases.

In such an inquiry there are certain obvious possibilities of error.

1. There is the possibility of the cause of death being incorrectly stated, owing to difficulty of diagnosis; but the statement of the cause of death in this inquiry is drawn from the self-same source which is relied on in the Registrar-General's returns, and the suspicion of error which attaches to this inquiry is no greater than that which may be held to vitiate the Registrar-General's statistics.

2. The individual's alcoholic habits may be incorrectly stated, either from want of accurate knowledge on the part of the contributor, or from his statement being biased by his views upon temperance questions. By this is meant that one man may entertain a more rigid standard of temperance than another, and place an individual in Class C, whom his fellow would include in Class B.

These errors were, however, foreseen, and provided against as far as was possible.

1. Each contributor was requested to leave a blank in the column if he were unable to index the individual with confidence; and, as a matter of fact, a large number of such blanks were left.

2. The meaning of the different classes was defined with as much accuracy as such a definition admitted of.

3. The contributors were allowed, when in doubt about the alcoholic class, to place the patient in an intermediate position between two classes. Thus, in addition to the five classes, four sub-classes were introduced, making altogether nine degrees upon the alcoholic scale. It might, the Committee thought, be fairly assumed, that with so many divisions on the scale the place accorded to any individual would seldom be far removed from the right one, and that on the whole slight errors in one direction might be taken to counterbalance similar errors in another direction.

The inquiry was placed in the hands of all members of the Association, and 178, whose names are printed in an Appendix (A), responded to it, forwarding 250 schedules of returns, including altogether 4,234 cases in which the alcoholic class was named, without counting those in which a blank was left.

TABLE I.—*Table showing the Number of Cases falling in each Class, and the Percentage* of each Class on the Aggregate of Cases.*

Class.		No. of Cases.		Percentage.	
A ...	...	122	or	2·8	per cent. of 4,234
AB	...	54	or	1·2	" "
B ...	...	1,529	or	36·1	" "
BC ...	...	178	or	4·2	" "
C ...	...	977	or	23·0	" "
CD ...	...	112	or	2·6	" "
D ...	...	547	or	12·9	" "
DE ...	...	100	or	2·3	" "
E ...	...	603	or	14·2	" "
Unclassified	...	12	or	0·2	" "
Total		4,234			

Roughly stated, it may be said that of the four thousand two hundred and odd individuals reported on—all, be it remembered, males over the age of 25—about 45 per cent. were habitually moderate in their alcoholic habits, 25 per cent. were careless, and 30 per cent. more or less distinctly intemperate (15 per cent. decidedly so).

* Carried to one place only of decimals.

OCCUPATIONS.

We have further classified the individuals in each class according to their respective occupations. As the numbers in most of the individual occupations are small, we have grouped them under fourteen heads.

TABLE V.—Table showing the Aggregate Number of Cases in each of the Fourteen Occupation-groups, and the Percentage of each such Group in the several Alcoholic Classes A to E; with the Normal (or Total) Percentage Incidence prefixed for purposes of comparison.

	Aggregate Number.	PERCENTAGE FALLING IN CLASS—									
		A.	AB.	B.	BC.	C.	CD.	D.	DE.	E.	
Total	4,222	2·8	1·2	36·2	4·2	23·1	2·6	12·9	2·3	14·2	
Independent	176	1·7	0·5	39·2	5·1	16·4	2·8	11·3	2·2	20·4	
Professional occupa- tions	242	5·3	0·8	47·9	4·1	16·1	4·1	9·5	2·4	9·5	
Clerical occupations	176	2·8	2·8	45·4	2·2	21·02	1·7	14·2	2·2	7·3	
Mercantile occupa- tions	195	3·07	1·02	42·05	2·5	11·7	2·05	18·4	5·1	13·8	
Tradesmen	378	3·7	1·3	37·8	3·9	13·2	4·4	14·5	3·9	16·9	
Licensed Victuallers	159	—	—	11·3	2·5	13·8	1·2	25·7	5·03	40·2	
Artisans	807	4·5	2·2	36·9	5·2	22·5	3·5	9·5	2·2	13·1	
Labourers	1,185	2·1	0·9	36·7	2·9	31·05	2·1	11·8	1·1	10·9	
Driving occupations	70	1·4	—	22·8	1·4	21·4	7·1	18·5	4·2	22·8	
Farming occupations	333	1·5	0·6	39·9	5·4	26·1	0·3	12·9	3·0	10·2	
Soldiers	47	4·2	—	14·8	2·1	36·1	6·3	8·5	2·1	25·5	
Sailors	74	4·05	—	28·3	10·8	27·02	1·3	18·9	1·3	8·1	
Domestic servants...	115	0·8	0·8	20·0	6·08	33·9	0·8	15·6	0·8	20·8	
Miscellaneous and blank	265	2·6	1·9	32·1	6·1	18·7	1·9	14·5	1·9	19·9	

We have further constructed a table—Table VII.—showing the relative alcoholic habits of the fourteen occupation-groups in a simpler but rougher manner. In this table the number of cases falling in the lower half of the alcoholic scale for each group is compared with that falling in the upper half of the scale. By the lower half of the scale is meant $A + AB + B + BC + \frac{1}{2}C$; by the higher half, $E + DE + D + CD + \frac{1}{2}C$. The comparison is expressed in the form of a ratio, the lower half of the scale being taken as unity.

For the sake of convenience this ratio will be termed “the Ratio of Minor Drinking Habits,” and the reverse ratio will be called “the Ratio of Major Drinking Habits,” or, more briefly, “the Ratio of Minor Habits,” and “the Ratio of Major Habits.”

In Table VII. the occupation-groups are placed in the descending series of their ratios of minor habits; and the ratio for the whole 4,222 cases is placed at the head for comparison.

The table is divided by two gaps. First we have six groups in which the ratio of minor habits is higher than the normal; next, four in which it is lower than the normal, but still not less than unity; and finally, four groups in which the less temperate end of the scale exceeds the more temperate.

TABLE VII.—*Table showing the Ratio between the Cases falling in the Lower and those in the Higher Half of the Alcoholic Scale ("Ratio of Minor Habits") for each of the Fourteen Occupation-groups.*

(The lower half includes A, AB, B, BC, and half of C. The higher half includes E, DE, D, CD, and half of C.)
Ratio for all occupations as 1 to 0·78

1. Professional occupations	...	...	...	...	as 1 to 0·51
2. Clerical occupations	...	...	...	...	as 1 to 0·57
3. Farming occupations	...	...	...	...	as 1 to 0·65
4. Artisans	...	...	...	...	as 1 to 0·66
5. Labourers	...	...	...	...	as 1 to 0·71
6. Sailors	...	...	...	...	as 1 to 0·76
7. Independent	...	...	...	...	as 1 to 0·83
8. Mercantile occupations	...	...	...	...	as 1 to 0·84
9. Tradesmen	...	...	...	...	as 1 to 0·87
10. Miscellaneous occupations	...	...	...	...	as 1 to 0·91
11. Domestic servants	...	...	...	...	as 1 to 1·25
12. Soldiers	...	...	...	...	as 1 to 1·60
13. Driving occupations	...	...	...	...	as 1 to 1·80
14. Licensed victuallers	...	...	...	...	as 1 to 3·81

We have, further, taken all the individual occupations of which not less than twenty examples are reported, and have drawn out a table for them (Table VIII.) on a similar plan to that of Table VII. As the aggregates were so low, we have not thought it worth while to construct a percentage table after the plan of Table V.

TABLE VIII.—*Table showing similar Ratios for certain special Occupations.*

PROFESSIONAL—

Ministers of religion (47)	...	...	...	as 1 to 0·09
Scholastic occupations (29)	...	...	...	as 1 to 0·38
Officers in the army and navy (28)	...	...	...	as 1 to 0·47
Medical men (41)	...	...	...	as 1 to 0·57
Lawyers (31)	...	...	...	as 1 to 0·93

ARTISANS—

Weavers (58)	...	...	...	as 1 to 0·43
Boot and shoe makers (61)	...	...	...	as 1 to 0·45
Tailors (69)	...	...	...	as 1 to 0·50
Carpenters and joiners (76)	...	...	...	as 1 to 0·76
Blacksmiths (39)	...	...	...	as 1 to 0·85
Painters (38)	...	...	...	as 1 to 0·90
Masons (58)	...	...	...	as 1 to 1·07

LABOURERS—

Agricultural and farm labourers (155)	...	...	...	as 1 to 0·45
Gardeners (67)	as 1 to 0·45
Miners (141)	as 1 to 1·23

TRADESMEN—

Butchers (59)	as 1 to 2·60
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MISCELLANEOUS—

Railway men (30)	as 1 to 0·42
Paupers (25)	as 1 to 1·76
Travellers (20)	as 1 to 1·85

AGES AT DEATH.

We now proceed to ascertain the average age at death for the individuals in each class. This is given in the following table. The table has been constructed simply by adding up in each class the ages given in the returns, which, it will be remembered, are the ages at death, and striking an average. The average age at death of the whole number is given at the foot of the table for purpose of comparison.

TABLE IX.—Average Age at Death for each Class.

Class	A	...	...	...	Years.	or	Years, Days.	
	Class A	...	...	...	51.22	or	51	80
	" AB	...	...	...	56.72	or	56	215
	" B	...	...	...	62.13	or	62	50
	" BC	...	...	...	62.42	or	62	155
	" C	...	...	...	59.67	or	59	246
	" CD	...	...	...	60.35	or	60	130
	" D	...	...	...	57.59	or	57	216
	" DE	...	...	...	53.64	or	53	233
	" E	...	...	...	52.03	or	52	14
	Unclassified	...	...	...	60.91	or	60	334
Total					58.92		58	336

It will be seen in this table that of the main classes the average age in B is the highest of all, and that a gradual diminution, amounting in all to rather more than ten years, takes place as we pass from B to E.

The smaller sub-classes, CD and DE, follow pretty fairly the descending series, the average of BC alone being a trifle above that of the class preceding it. Thus we may see as far as these cases go, that as the alcoholic habit increases the average duration of life diminishes. The difference in duration between the habitually temperate and the decidedly intemperate (both classes, be it remembered, having already passed the age of twenty-five years, and all who died below that age being excluded) amounts to a period of some ten years.

But the average age furnished by the total abstainers is somewhat startling, for we find that it is not only far below the average age attained by the moderate drinkers, but it is even a year below that reached by the decidedly intemperate. It must, however, be remembered in interpreting this figure correctly that the class of total abstainers is somewhat differently constituted from any of the other classes.

It will not, I think, be disputed that the total abstinence movements which have played so prominent a part in this country of late years have made many more converts among the young than among the middle-aged or elderly. If this is admitted, it will necessarily follow that the average age of total abstainers—I mean of living total abstainers—at any time during the three years covered by this inquiry, was considerably less than the average age of the rest of the community; so that the class of abstainers has contained a proportion much greater than the average of individuals susceptible to early death; or, to put it in another way, has had a greater average liability to early death, apart from any question of alcohol, than any of the other classes.

These considerations are borne out to some extent by the tables immediately following. Table XII., for example, the construction of which will be presently described, shows that the stress of mortality among abstainers comes quite in the early years, especially before the age of thirty is reached. We have, therefore, constructed two fresh tables (Tables X. and XI.) on the model of Table IX. These two tables, to put it briefly, are repetitions of Table IX., but in the one all cases of death under thirty are omitted, and in the other all cases of death under forty.

TABLE X.—Average Age at Death for each Class, omitting all Cases of Death under 30.

			Cases.	Years.		Years.	Days.
Class A	...	...	98,	average 57'31	or	57	115
" AB	...	...	47,	" 61'19	or	61	69
" B	...	...	1,433,	" 64'48	or	64	177
" BC	...	...	173,	" 63'43	or	63	156
" C	...	...	925,	" 61'52	or	61	189
" CD	...	...	110,	" 61'009	or	61	3
" D	...	...	525,	" 58'87	or	58	317
" DE	...	...	96,	" 54'73	or	54	266
" E	...	...	571,	" 53'42	or	53	155
Total			3,978	60'87	or	60	319

TABLE XI.—Average Age at Death for each Class, omitting all Cases of Death under 40.

			Cases.	Years.		Years.	Days.
Class A	...	...	79,	average 62'74	or	62	270
" AB	...	...	39,	" 66'84	or	66	306
" B	...	...	1,294,	" 67'71	or	67	270
" BC	...	...	154,	" 67'006	or	67	2
" C	...	...	829,	" 64'65	or	64	237
" CD	...	...	99,	" 64'12	or	64	43
" D	...	...	464,	" 61'98	or	61	357
" DE	...	...	78,	" 59'42	or	56	153
" E	...	...	468,	" 57'47	or	57	259
Total			3,504	64'41	or	64	152

It will be seen that in Table X., though there is as much as eleven years difference between the average of Class B and that of Class E, the difference between the average age of B and that of A is reduced to seven years. In Table XI., while the averages for B and for E are ten years apart, those of B and A are separated by little more than five years.

The conclusions of the Committee are as follows :—

SUMMARY.

On the whole, then, in addition to the information that we obtain from these returns as to the alcoholic habits of the inhabitants of this country, and as to the relative alcoholic habits of different occupations and classes, we may not unfairly claim to have placed upon a basis of fact the following conclusions :

1. That habitual indulgence in alcoholic liquors beyond the most moderate amounts has a distinct tendency to shorten life, the average shortening being roughly proportional to the degree of indulgence.

2. That of men who have passed the age of twenty-five, the strictly temperate, on the average, live at least ten years longer than those who become decidedly intemperate. (We have not in these returns the means of coming to any conclusion as to the relative duration of life of total abstainers and habitually temperate drinkers of alcoholic liquors).

3. That in the production of cirrhosis and gout alcoholic excess plays the very marked part which it has long been recognised as doing; and that there is no other disease anything like so distinctly traceable to the effects of alcoholic liquors.

4. That, cirrhosis and gout apart, the effect of alcoholic liquors is rather to predispose the body towards the attacks of disease generally than to induce any special pathological lesion.

5. That in the etiology of chronic renal disease, alcoholic excess, or the gout which it induces, probably plays a special part.

6. That there is no ground for the belief that alcoholic excess leads in any special manner to the development of malignant disease, and some reason to think that it may delay its production.

7. That in the young alcoholic liquors seem rather to check than to induce the formation of tubercle ; while in the old there is some reason to believe that the effects are reversed.

8. That the tendency to apoplexy is not in any special manner induced by alcohol.

9. That the tendency to bronchitis, unless, perhaps, in the young, is not affected in any special manner by alcoholic excess.

10. That the mortality from pneumonia, and probably that from typhoid fever also, is not especially affected by alcoholic habits.

11. That prostatic enlargement and the tendency to cystitis are not especially induced by alcoholic excess.

12. That total abstinence and habitual temperance augment considerably the chance of a death from old age or natural decay, without special pathological lesion.

It is greatly to be regretted that the number of cases is so small, but they are probably sufficient, and gathered from a sufficiently wide area to indicate the actual facts in a rough way, as far as the nature of the case and the method adopted would allow. There can be no doubt that there must often have been a difficulty in deciding the exact extent of many an individual's potations, especially when he had been dead from two to three years. But, on the other hand, the reporters were requested to leave a blank when they were not sure of the facts, and frequently did so ; and it may be fairly supposed that in deciding on the class to which any particular man should be relegated, the reporter would be more likely to incline to charity than severity, especially if relying on information derived from friends of the dear departed. All these hypotheses must of course detract from the scientific accuracy of the conclusions ; but many of them are inevitable in dealing with such questions, and we must accept them as distinctly preferable to any vague guesses on the subject.

It is satisfactory to find that in the returns giving the percentage of minor to major habits, the professional class shows the best of any. This includes ministers of religion, scholastic occupations, officers in the army and navy, medical men and lawyers. This may be said to corroborate to some extent the assertion that education lessens intemperance. Yet the difference between these and artisans is not so great as some may imagine. It is as 1 to 0.51 in the professional class, and as 1 to 0.66 among artisans. Those, however, who urge education and social pressure as the true and only necessary remedies of intemperance, have to reckon with this fact, that the percentage of minor to major habits is as much as 1 to 0.83 in those who are classed as "independent," who, as regards their drinking habits, are a

good deal worse than the working men. The same applies to tradesmen and those engaged in mercantile occupations ; in fact, a large portion of the lower middle class are more intemperate than the working men and the labourers !

Reverting to the professional class, we are met with the astounding fact that of all those reported on as having died during the preceding three years, one-third of them were more or less intemperate ? The question must be asked, then, Is this the goal at which we ought to aim ? Ought we to be satisfied when we have attained this wonderful pitch of perfection that two-thirds of the adult male population are not intemperate ?

It will probably be said that this by no means represents the actual condition of things, and that intemperance is not really so prevalent. To this I reply that these general impressions are more likely to be wrong than the conclusions which rest on data collected with considerable care, even though these latter may not be absolutely accurate. There is one consideration which may partially account for the discrepancy. It is this : the figures of the report are based on the habits of *completed* lives ; the impressions of men in society are based on *uncompleted* lives. Again, the figures of the report are based on private and professional information ; the impressions of men in society are based on only a small portion of the life. The public often only see one side of a man's life, and there is often a "seamy side," which is known to only a small circle. Moreover, the minor degrees of the major habits, in other words, slight excess or occasional intemperance, might be the habit of multitudes of men, and yet the great majority of those with whom they are thrown into daily contact would never know it. It is both wrong and absurd to consider that no one is a drunkard, or guilty of intemperance, unless he is frequently intoxicated. Men imagine, too, that no one is drunk unless he walks unsteadily. It cannot be too strongly insisted on that drunkenness does not commence at the legs ; *it ends there*, as a rule.

Hence this indictment of the British public is not to be quashed so easily. One may fairly go a little farther. As I have pointed out in a letter to the *British Medical Journal*, the returns given in Table I. are fearfully significant. No less than 14·2 *per cent.* are classed under E as decidedly intemperate, or, with a few of class DE, rather over 15 *per cent.* So that there were 15 *per cent.* decidedly intemperate and another 15 *per cent.* "more or less distinctly intemperate." These are, curiously enough, the exact proportions of the insane who have become so, according to the best authorities, directly and indirectly respectively, through drink. But it is a most serious fact that 178 medical men, scattered throughout the United Kingdom, should state that, during

three years, of all males dying under their charge over twenty-five years of age, one in every seven was a decided drunkard and one in every three more or less intemperate! This would indicate that of the 6,000,000 (at least) of adult males, no less than 850,000 are decided drunkards, and about 2,000,000 are more or less intemperate! And the figures do not include the drunkards under twenty-five years old, nor the drunken women! Surely we have here a revelation which more than justifies all the efforts of total abstainers to stem the torrent of drunkenness!

But what if the remedy be worse, or at any rate, more dangerous, than the disease? This, at least, is what some allege that the statistics show. It is a good illustration of the fallacy of figures. It is beyond question that the average age of the abstainers at death was only 51·22 years, while that of the habitual drunkards was 52·03. But the reporter himself had an inkling of the cause of this strange fact, and does not draw the erroneous conclusion that total abstinence is more injurious to health and more dangerous to life than hard drinking, though others have "rushed in," characteristically, where Dr. Owen "feared to tread."

It is beyond question that the average age of the abstaining population is considerably below that of the drinking population. This is the case even when only males over twenty-five years of age are considered. The great majority of the abstaining men of the present day are under forty years of age, and of life abstainers only a small portion are over thirty. The temperance movement is but just over fifty years old, and it is only during the last fifteen years that it has made such rapid strides. Hence the great bulk of the abstainers have *not had time to die*. They are still living on to swell the average of "Class A" of some future Investigation Committee in A.D. 1928. It is well, perhaps, that the figures are as bad for the teetotalers as they are, since every thinking man realises that there is a fallacy lurking beneath them. Had they been only half as bad conviction would have been more difficult.

In the discussion to which this report has given rise, attention was very properly drawn to the figures of the United Kingdom Temperance and General Provident Institution. These for the twenty-two years ending 1887 show that the expected deaths in the general section were 6,144 and the actual 5,984, or about 97·4 *per cent.*: the expected deaths in the temperance section were 3,937, and the actual 2,796, or 71 *per cent.* These figures are so striking, confirmed, as they are, by the experience of other offices, that they entirely remove any suspicion as to the safety and superior healthfulness of total abstinence. Being so striking, fresh efforts have been made to destroy their significance; but

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these have signally failed. It has been said, for instance, that this is no comparison between abstainers and moderate drinkers, but between the former and a mixed body of drinkers containing many drunkards, careless drinkers, and free drinkers. The reply to that is that, as a matter of fact, the number of intemperate persons in the general section cannot be large because the death-rate of all the drinkers by themselves is actually below the general rate of the whole insured population, abstainers included; whereas, after deducting the abstainers, the death-rate would have been *above* the average if many drunkards were included. I have contended, too, that these drunkards are part of the bargain, part of the inevitable results of the moderate use of alcohol, and no more to be excluded from the calculation than those who had any other disease induced by the use of alcohol. We want to know the actual and practical results of the moderate use of alcohol by a mixed multitude, and not to discuss theoretically academic moderation, which has no existence in real life.

Another proof of the comparative moderation of the members of the General Section in this office is afforded by the fact that the difference in favour of the abstainers is chiefly due to the lengthening of life beyond the age of sixty. To put it another way, the difference between the two sections is very small up to the age of sixty, but increases rapidly after that age. Now Dr. Owen, in a table not given above, shows that in Class B the stress of deaths is in the seventies, no less than 16 per cent. being in the eighties. In Class C the stress is still in the sixties and seventies, but the preponderance in the seventies is less and the eighties are much reduced, while the forties and fifties begin to mount. In Class D the stress is again lower, in the fifties and sixties, especially the latter, the seventies being much reduced and the thirties beginning to mount up. In Class E the stress is in the forties, fifties, and sixties, with a strong tendency to the forties. As I have said, the comparison is for the most part with those classes in which the stress of death is chiefly in the sixties and upwards, that is to say with Classes B and C, and compared with them the abstainers win hand-over-hand.

The higher mortality of the moderate drinkers of alcohol must be due to some cause, and it is reasonably to be attributed to the gradual degeneration of various organs which are themselves rendered more prone to disease and less able to stand the strain of disease in other parts, so that the patient succumbs when he would otherwise recover.

It may readily be granted that it is safer to be a member of Class B than of Class C, and the former, as shown by the above tables, has a higher average age at death.

But it is a perfectly unwarranted supposition that, if all who

deserve to be placed in Classes C, D, and E, were eliminated from the General Section, the mortality of the strictly temperate, or B folk, would be equal to that of the teetotalers, and still more that it would be even lower. Of this there is no evidence whatever, and till some real evidence is forthcoming, one must still believe that the members of Class B do contribute to increase the mortality, though doubtless less than those in C, D, and E, and that the narcotic poison alcohol cannot be taken habitually for a considerable period, even in small doses, without producing some palpable effect.

And though it is satisfactory to find the *Lancet* declining to recognise the habits of the careless drinkers (Class C) as fairly within the definition of temperance, and alleging that "abstainers, who have their faults and even their diseases, and who do die in spite of their abstinence, certainly escape or 'keep under' many diseases and degenerations which shorten and impair life," yet it must not be forgotten that all the members of Class C were once in Class B, and that as they die off or go down lower, their places are filled by a never-ending stream of drink-deceived people.

The controversy cannot fail to do good, and it shows that nothing has been discovered which can shake the impregnable position of the abstainer from the subtle, brain-bewitching, cell-degenerating narcotic, ethylic alcohol.

A few remarks may be made on the indications derived from the report as to liability to certain diseases of the members of the various classes. It comes out very clearly that cirrhosis is intimately connected with the use of alcohol. There were 67 cases reported, and the ratio of minor habits to major habits was as 1 to 15.7. There were no cases among the abstainers. All the cases were fatal in middle life.

Gout is also proved to have an intimate connection with the use of alcohol. Only two cases occurred among the abstainers, none under forty, and these probably inherited the disease. The percentage of cases in Class B was more than double that in Class A, and the percentage increases rapidly with the increasing consumption of alcohol. This is in accordance with previous experience. It shows very plainly, too, that even the strictly temperate—the model people—take enough alcohol to produce such chemical and vital alterations as produce disease. If "strictly temperate" habits as regards alcohol are not only innocent but beneficial (as some will have it), they ought to win all along the line. But this investigation respecting gout clearly shows that the effect of alcohol is to induce disease.

No sane man will believe that gout is the only disease which alcohol in small doses is capable of producing. Gout is itself a

symptom rather than a disease. It is the result of alterations in the chemistry of the liver, that long-suffering organ which has to bear the brunt of the potations of alcohol, and which we have seen becomes affected with cirrhosis sometimes even in the strictly temperate, but never in the abstainer. We may be certain that these alterations in the chemistry of the liver do not always result in gout; other functional derangements follow, such as "biliousness," depression of spirits, sleeplessness, dyspepsia, &c., which do not figure as causes of death, but are very real troubles. The consequences of this alcoholic liver derangement are very far reaching, and the reality of it, even in strictly moderate drinkers, is now established beyond question.

A conclusion is drawn, though somewhat doubtfully, that alcohol drinking, even to some excess, diminishes the liability to tubercle in the young, while it seems to increase it in the old. The former is more than doubtful. The fact is rather, I think, that persons of a phthisical constitution, sanguine, or nervous, and delicate, are more ready to take up the total abstinence cause, and to throw themselves into it with great energy, sometimes carelessly overworking themselves and bringing on the disease to which they are constitutionally predisposed. I think this occurs in sufficient cases to produce the slight excess of tubercular deaths among young abstainers which is reported. There is very wide divergence of opinion among medical men on this point, as well as on the treatment of phthisis with alcohol, and it is desirable that more extended investigation should be made.

We feel much indebted to Dr. Owen for the trouble he has taken in the matter; he has made the most of the material supplied to him, and, as abstainers, we have found nothing in the report to indicate that the course which most of us have adopted for the benefit of others is injurious to ourselves, but rather the reverse.



THE INVESTIGATION ON DRINK AND DISEASE.—Rarely has any document been the subject of such extraordinary misconception and misrepresentation as have fallen to the lot of Dr. Isambard Owen's Report of the Collective Investigation on the Connection between Drink and Disease. All over the kingdom Dr. Owen has been represented as laying down, from the returns sent in to this Committee, that total abstainers do not live so long as moderate drinkers, or even as those who are actually intemperate. We need hardly say to our readers that Dr. Owen has never said anything of the kind. On the contrary, he distinctly stated that no conclusion could be drawn from the returns as to the relative longevity of teetotalers.—*British Medical Journal*, Sept. 1.

Miscellaneous Communications.

TEMPERANCE BREAKFAST TO THE BRITISH MEDICAL ASSOCIATION.

By invitation of the directors of the Scottish Temperance League and the Committee of the Scottish Branch of the British Medical Temperance Association, a large number of the members of the British Medical Association were entertained at breakfast in the Queen's Rooms, Clifton Street, Glasgow, on Wednesday morning, 8th August.

The Rev. Canon BARKER having asked a blessing, the company partook of breakfast; after which

Sir WILLIAM COLLINS rose, amidst applause, to open the proceedings. He said: Gentlemen, in name of the directors of the Scottish Temperance League and Committee of the Scottish Branch of the British Medical Temperance Association, I thank you for the honour you have conferred by accepting our invitation to breakfast with us this morning. On this occasion it is my special privilege, as president of the oldest temperance organisation on this side the Border, to convey to you, in a few words, the hearty greetings of the temperance reformers of Scotland, and to express our high appreciation of the invaluable services rendered to the great and growing cause of temperance by many of the most eminent members of the British Medical Association. During the forty-three years the League has been established for the promotion of national sobriety and social reform, it has had the influential support of many members of the medical profession, and its literature is enriched by contributions and standard works from the able and eloquent pens of such accomplished physicians and surgeons as the late Professor James Miller, of Edinburgh, Professor William B. Carpenter, Sir William W. Gull, Sir Henry Thompson, Dr. B. W. Richardson, Dr. James Edmunds.

and Dr. Norman Kerr. There can be no doubt, gentlemen, that the important medical declarations, signed by nearly 3,000 members of your profession in the United Kingdom in 1847 and 1871, greatly strengthened the position of the temperance reformer in his struggle against intemperance, which has been so truthfully described by Dr. Sir Andrew Clark as "the enemy of the race." Indeed, even the earliest of these famous declarations, issued fully forty years ago, embodied in a most concise and accurate form the foundation principles of the temperance enterprise, and perhaps, therefore, you will kindly allow me to remind you of its propositions. It stated: 1st, that a very large proportion of human misery, including poverty, disease, and crime, is induced by the use of alcoholic or fermented liquors as beverages; 2nd, that the most perfect health is compatible with total abstinence from all such intoxicating beverages, whether in the form of ardent spirits, or as wine, beer, ale, porter, cider, &c.; 3rd, that persons accustomed to such drinks may, with perfect safety, discontinue them entirely, either at once or gradually, after a short time; and 4th, that total and universal abstinence from alcoholic liquors and intoxicating beverages of all sorts would greatly contribute to the health, the prosperity, the morality, and the happiness of the human race. Now, advanced as these sentiments are, we all rejoice in the fact that during these past forty years, but especially during the last twenty years or so, medical scientists and practitioners have made great progress in their views and practice regarding the non-alcoholic treatment of disease. Hence the formation a few years ago of the British Medical Temperance Association, of which Dr.

Richardson is the President, and which has no fewer than 387 members and 120 associates throughout the kingdom. I need not say that we are specially gratified with the progress which the Scottish branch of this Society is making, and which, I doubt not, will be fully detailed by the energetic President, Professor M'Kendrick, of our University, whose adhesion to and able advocacy of, our principles cannot but exert a potent influence in favour of the movement, both in the professional and non-professional circles of our city. Gentlemen, it is unnecessary, as it would be highly imprudent on my part, to refer to the fact, which is acknowledged in your own declaration of 1871, that the inconsiderate prescription of alcoholic liquids by medical men for their patients has given rise in many instances to the formation of intemperate habits. Now, I well remember that one of the most important practical testimonies to the safety and value of non-alcoholic prescription and treatment was recorded many years ago in the columns of the *Lancet*. I allude to the fact now for two reasons—first, because it is the result of the experience connected with the professional labours of our distinguished and talented townsman, Professor Gairdner, who so worthily occupies the position of President of your present Medical Congress. And further, because it capped the climax of practical disproof of the claims of alcohol to be freely administered, and that, too, in the case of all others in which its prescription has been deemed most unquestionable—the case of typhus fever. The cases treated by Dr. Gairdner in our local infirmary, with this view, amounted to nearly 600 cases—a very ample basis from which to deduce conclusions. Of these, the mortality among the patients who were treated with alcoholic stimulants amounted for all ages to 17½ per cent., this being nearly the same as in the English hospitals; whereas among those who were treated with milk and other milder substitutes the mortality fell short of 12 per cent., and in the case of young

people was less than 1 per cent. The learned professor accordingly concluded, and his conclusion has been strengthened by all subsequent experience, that, to the young in particular, "in typhus, and very probably in most fevers, stimulants are not less than actively poisonous and destructive, unless administered with the most extreme caution, and in the most special and critical circumstances." And now, gentlemen, in a closing word, permit me to say that I think, on a dispassionate review of the whole question, it will be admitted by every candid and reflecting medical man that the use of alcoholic spirits in the practice of medicine is not always, and, indeed, is seldom, indispensable, and seldom useful; and that in the latter case there is a great variety of remedies which are amply sufficient as substitutes. If this be the case, what, I respectfully ask, is the duty of every physician in relation to this article, which has spread such misery, desolation, and ruin throughout this country and the world? Shall not physicians, who have always been pre-eminent in the labours of love and the exertions of philanthropy, do even more in future than they have yet done for the promotion of the temperance cause—the greatest and best of the benevolent enterprises of this benevolent age?

Professor M'KENDRICK, who was received with applause, said: This breakfast has been organised by the directors of the Scottish Temperance League, and the Scottish Branch of the British Medical Temperance Association; and I think it is a very happy thing to wed the two societies together, and to bring the full weight of the influence of the medical brethren to bear upon this temperance question when they are assembled together at this great medical congress; and, also, the influence of the Scottish Temperance League, which has done such good service in the past to the cause of temperance. I do not think this is an occasion on which there is any need of any discussion regarding the physiological, or even the medical, aspect of the question we have espoused.

I have no doubt that the great majority of the members of the British Medical Association are thoroughly acquainted with the very powerful arguments, from the physiological and medical side, in favour of the practice of temperance. There is no necessity for taking up our time in that way, and I regard this meeting more as affording a means of encouraging each other in carrying on the work of temperance. I hope that the result of this conference may be a very large accession of members to our Scottish branch of the British Medical Temperance Association. I have no doubt that our friend, the English secretary of our temperance association, will be gratified very much by receiving a large accession to the membership. We have not in Scotland anything like the number of members of the association in our temperance association that we ought to have. I believe there is a large number of members of the British Medical Association scattered over the country who are practical abstainers, and who have not joined the temperance association; and I would like to urge upon all such gentlemen to take the last step, and come forward and take up their position boldly with us as members of the Medical Temperance Association. So long as a man has not identified himself particularly with the cause there is a certain weakness in his position, and those who are opposed to us will be ready enough to take advantage of this weakness. When a man has once taken up his position of being a total abstainer, and becoming publicly a member of this temperance association, I am quite sure that he will feel that he has gained moral force, and is in a much better position for advocating the cause we have at heart. I would therefore entreat all medical men who are practical total abstainers already—and I believe there are many such—to join the British Medical Temperance Association. This will give us much greater strength and much greater force in Scotland. We require addition to our strength. Our membership is so small in Scotland that it is not easy to get meetings in Edinburgh for any special purpose; and, as I have already

said, I hope one of the effects of this conference will be a large accession to our numbers. I think the time has now almost passed away for argument with regard to temperance and total abstinence. I find that when I have any argument with those who are not abstainers, that they practically concede one point after another in the course of the argument. They admit that abstainers have shown that men are likely to live longer and more happily if they are total abstainers; they freely admit that intemperance is the curse of the country in many respects. The one point they are not willing to concede is the point of becoming total abstainers. That is the most difficult point of the question before us. We find that, in dealing with many excellent men, this is the point on which they take their stand. Perhaps the strongest argument to bring to bear upon men in that position is this:—"If you in your daily life use so small a quantity of alcoholic liquor, if you have given up so much that you use it in this exceedingly moderate manner, surely it is not asking of you very much were we to ask you to become a total abstainer altogether for the sake of your weaker brethren." For I hold, after all, that it is the moral side of a question that will have greatest weight. I know that in my own case it was that side of the question that led me ultimately to take my stand in this temperance cause. I saw that the advocates of total abstinence have the argument in their favour, from a physiological point of view; but when I reflected on how much harm the use of alcoholic liquor was doing in our country—when I reflected on the mischief it was doing in all classes of society—when I thought of the degradation of our nationality resulting from our drinking customs—when I considered that there were few families in our personal acquaintance who had not experienced sorrow on account of habits of intemperance amongst their friends—I felt that I could no longer refuse to take up my position among the temperance reformers, and give up this little bit of moderate indulgence for the sake

of others. I should like to say one word more on the prospects of the cause of temperance. I believe that the cause is spreading among the students of medicine. We have temperance associations connected with the universities of Glasgow and Edinburgh; and these associations, though not very aggressive in some respects, are doing good work in promoting temperance among our students. I am glad to believe that among our medical students a considerable number are practical abstainers, although not connected with any association; and I would earnestly hope that they also will come and take their stand on the side of total abstinence. The very fact that a man is a total abstainer, although he has not joined an association, has a great weight among his fellows, and I am sure he would have much greater weight and influence if he would only take up a true position which he ought to occupy. Sir William Collins has referred to the use of alcoholic stimulants in the treatment of disease. Now, I do not profess, as I have long given up the practice of medicine, to be an authority on this question, and I can only speak upon general principles; but I think it may be put in this way, that it has been satisfactorily proved that many diseases can be treated well without the use of alcoholics, and that in the past very serious mistakes were made in practice by the administration of very large doses of alcohol. I think we should take care, in our zeal for the cause of temperance, not to push this argument too far. The very fact that alcohol is so powerful a physiological agent is sufficient to show that it may be of advantage in medical treatment. But there is, on the other hand, danger in the prescription of this substance to a patient, and we cannot too strongly insist upon the necessity of administering this powerful drug in the most careful manner, with the view of preventing injury to patients. Dr. Richardson admits that alcohol is a powerful agent in the treatment of disease, and he recommends that this point should be more carefully studied in the direction of testing the physio-

logical action of alcohol itself, apart from the study of the effect of those wines and other liquors that contain alcohol. The alcohol in wine, beer, or spirits, is a very complex substance, and its effect when taken in these liquors must differ to some extent. These matters have not been thoroughly studied, and I think that Dr. Richardson's suggestion ought to be adopted, and that physicians, in prescribing alcohol in the treatment of various kinds of disease, should so prescribe it that they will be able to watch carefully its physiological action in particular cases. I shall not longer detain you, but I wish before sitting down to urge the importance of temperance men standing shoulder to shoulder in this cause. Let us not be afraid to say that we belong to the temperance cause. Last night I called the attention of two or three medical gentlemen to this meeting, and offered to call upon them at half-past seven o'clock this morning, and accompany them to this breakfast. They did not agree to come, but they knew, however, that there was to be a temperance breakfast. Let us try to help each other in this cause. Let us adopt a calm, judicious attitude, with regard to this question. There is not the slightest necessity for exaggerating our arguments. The argument on behalf of temperance is so entirely on our side that we will commit a grave error by taking up very extreme views on this subject. But let us confine ourselves to fair and reasonable argument, and I have not the slightest doubt that we shall see, in a very few years, a very large accession to our numbers. We medical men have great responsibility towards the community in this question, and I am very glad that, as a teacher of physiology, I have seen it to be my duty to take up this question. Surely a physiologist has opportunities of studying fairly and fully the question whether alcohol is likely to do good or harm. We owe to the community the duty of giving no uncertain sound in this matter. We have an opportunity of bringing our views before the public, and I am quite sure that in promoting

the cause of temperance we are engaged in a noble cause, second only to Christianity. Let us bid each other God-speed in this work. Let us help forward this movement as far as in our power, and, if we succeed in bringing additional medical influence forward in this matter, we will have done a great service to our country.

Dr. ALFRED CARPENTER, J.P., Croydon, said: It is not very long since I had the privilege of addressing an audience in Glasgow in connection with this subject. It was my duty, when attending another Congress in this city, to address the working men of Glasgow in St. Andrew's Hall, and then it was my duty to call attention to some very important facts in the sanitary history of Glasgow—the fact that some 27 per cent. of the inhabitants of Glasgow were living in one-room tenements, and that those one-room tenements were associated very much with the use of alcoholic liquor, and that where one-room tenements existed there the largest number of drink shops were found congregated together. On that occasion I felt very strongly, although my address to the working classes was not directly connected with the subject of temperance, that every man who cultivates and promotes sanitary science must necessarily become a temperance reformer. We have the undoubted fact that a very large proportion of the disease to which human kind is subject is due to the use of liquor as men are accustomed to take it in this country. It gives me very great pleasure to find that on this occasion you have been addressed by such an authority as Professor M'Kendrick, because the teachings of Professor M'Kendrick in connection with the physiological aspect of the temperance question ought to be sufficient to carry to the minds of all who study the subject that physiology is opposed to the use of intoxicating liquor in the way it is ordinarily indulged in. Three weeks ago I looked through the newspapers—medical and lay—and inquired into the circumstances of such cases as were published in detail for the purpose of obtaining proof that there was not a

proper appreciation of physiology among the members of the profession in the treatment of disease, as shown in the rooms in which inquests were being held. If you take up any newspaper you will find that medical men who give evidence at inquests are not in accord with physiological fact. You will find that doctors say that they were called in to see particular patients, and found them in such a state, and that rum or brandy was given, and then they go on to detail the post-mortem appearances. I have in my mind's eye at present a very important case that I hope will be thoroughly inquired into, in which it was stated that when the doctor found certain symptoms he administered brandy, and afterwards injected alcohol; and when he came to detail the post-mortem appearances he found the left-hand side of the heart empty and the right gorged with blood. Now, I ask any physiologist whether the administration of the alcoholic liquors had anything to do with the result? It was quite evident that when he came to see the patient and discovered that the left-hand side of the heart was empty of blood, and prescribed alcohol, it necessarily followed that he intended to remove more blood from the venous into the arterial system, and deprived the heart of the nourishment required for it. I say it is very important that medical men should have a clear idea of the physiological condition of the body of their patient, otherwise they may, in prescribing alcohol, be sending the man into eternity. I must congratulate the University of Glasgow on having so able a teacher of the physiological view of this question as Professor M'Kendrick. Those who were in the Bute Hall last night, and heard the address given by the president of the association, in which he dwelt upon Darwin's method of observation, and showed how that great man followed out the truths of science, may learn a lesson if they will apply what they heard to the temperance cause. They will find that there is no occasion for going beyond the

simple facts of the case, because they will have them at their hand if they will only follow them right out. The more the facts of the case are studied, the more will it be seen that the position we occupy as total abstainers is one founded upon right, justice, and humanity. There is one point, perhaps, to which I may refer, in which temperance advocates like myself find that the position of the temperance reformer is not a bed of roses. I am not going to tell medical men that when they embrace the temperance cause they will find everything straight. They will find great difficulties in their way; but difficulties are made for the purpose of getting over them and conquering them—and I know that Scotchmen, of all men, are capable of conquering difficulties when they come in their way. There is one great difficulty which constantly arises in practice. After men have embraced temperance principles for a time, they find—as they often say—that it does not agree with them, and they are advised by their friends to give it up, and they act upon that advice and go back to their beer and whisky-and-water, and they find themselves better again. It has come to my knowledge that persons who have embraced temperance principles have given them up on medical advice, and have gone back to what they call habits of temperance, inasmuch as they drank moderately of alcoholic liquors. Well, the reason why in these cases men feel that total abstinence does not agree with them is that medical men have forgotten that the bodies of men are very much like a great city—that we have in our constitution a very large number of sewers, and that if we do not keep these sewers flushed properly, we will suffer from the consequences of sewage that has been retained in the wrong place. Now, when a man gives up seven or eight glasses of beer a day, or half a dozen glasses of whisky-and-water—I know that a great many moderate men take half a dozen glasses a day of whisky-and-water, and do not think that it is wrong. Now, when he gives up this and does not take any substitute, he

suffers from not filling up the vacuum that is created by the abstinence from alcoholic liquors, and unless he is put upon right lines, and shown that his constitution requires water to take away what the water in the alcoholic liquors took away from his system, he will go back to his old habits. In connection with this temperance reform, there are various questions connected with the use of alcohol in prescriptions that have been already referred to by Professor M'Kendrick. I think it is requisite that we should be careful in our prescriptions, and know that we prescribe for a special cause, a special result; and if we do not give the prescription of alcohol with a definite idea as to what good it will do, it is likely that it will rather do harm. I am convinced that more evil has been done in establishing organic disease by the daily admission of alcohol into the system than the outside world has any idea of. We have to put before the world the fact that organic disease, which cuts off so many men and women prematurely, has its origin in the ordinary use of alcohol as a beverage preventing the expulsion from the body, in the proper way, of matter which would be easily got rid of if water were substituted for the alcohol. I thank you for listening to me as you have done, and I trust the visit of the British Medical Association may bear fruit in a very large accession to the ranks of total abstinence.

Dr. NORMAN KERR, London, said: I regret that I had not the opportunity of attending the meeting yesterday, at which the report of the Committee on the Inebriates Bill was considered. I regret it because Dr. Cameron, M.P., has taken so prominent a part in advocating legislation for inebriates; and I also regret it because in Scotland the movement for legislation for inebriates was begun by the late Dr. Christison, and carried on by other medical men in Scotland. I had the pleasure of hearing the Earl of Aberdeen, a noble Scottish nobleman, give an address in moving the second reading of the Inebriates Bill that might have proceeded from Professor

M'Kendrick. Our friend, Dr. Cameron, has contributed something to the cause by succeeding in getting one little bit of permanent legislation passed in regard to inebriates. But we must work our way further in this direction. This is only the thin end of the wedge that we have got, and we will not allow our endeavours to slack till by-and-by, as in our colonies, provision will be made that the weakest of our diseased brethren will be able to give up his liberty for a time, in the hope that he will thus ultimately obtain his full liberty as a subject of Queen Victoria. I rejoice to rise now, because of the vivid recollection of times gone by, not only when our distinguished Chairman, Sir William Collins, but when his saintly father laid the foundation of the temperance reformation on the same lines as his son has done this morning. As Professor M'Kendrick has truly said, the strength of this movement is not in science. The great point for us to consider is, What is the general tendency of the whole drinking system? If any of the members of the British Medical Association can bring forward such a patent as will ensure that a certain amount of poisonous beverage can be used without drunkenness we shall be happy to hear it. Till then we feel that we are entitled to call upon every member of the medical profession to view the drinking system as a whole, to look at its tendency, not upon the poorest class of the people only, but also upon the intellectual and richest part of the community, and to come to a conclusion as to their duty in regard to this great evil. The victims of the most terrible form of the disease of inebriety have often been men whose memory is a fragrance; and they have fallen victims to the disease because there is a mysterious physical element in alcoholic liquors which seizes upon the brain, which sets up a diseased condition under which a man may wriggle and writhe, but from which, without medical treatment and without retirement, recovery is a physical impossibility. But we, as medical men, know this, that there is no single

human being who may be said to be in a hopeless condition. Let us never forget what the poet Thomson has said, that—

“Nature formed us in a heavenly mould.”

Let us try to restore all that is godlike in man, and to this great and noble end I ask you who have not already done so to take the cold water plunge, and by your personal abstinence still more than by your teaching, endeavour to bring men round to your practice of total abstinence. Suppose Professor Gairdner, the president of the British Medical Association, and every member of that Association, were to sign the pledge, what a wonderful revolution there would be in the medical profession. I ask every member of the medical profession here who is not an abstainer from alcoholic liquors to consider and weigh well what an enormous amount of good he is leaving undone. One of the greatest blessings of being embarked in this temperance reformation has been the effect of our sound example as physicians. Patients who have been recovered from drunkenness turn up, and we are repaid for all the loss we have suffered by embracing this reformation. Let us consider carefully what is being laid before us this morning. If we are abstainers let us go forward, and do more in the way of promoting this great and good cause. If we are not abstainers, let us ask ourselves fairly, as persons who have some influence in the community over the bodies of men and women, whether it is our duty to embark in this great cause.

Surgeon-Major PRINGLE, M.D., London, said: I should like to take for my address this morning the good old Scotch motto, “Ready, aye ready.” If there is a profession in the world which would demand total abstinence it is the medical profession. I am thankful to say that I have been kept free from connection with the drinking customs through the teaching of my father, who used to say, “What has a boy or girl to do with wine or beer?” I regret that I did not earlier begin to apply the principles of total abstinence

in my medical practice. I would have had less sickness in the battery to which I was physician in past times. I can speak of the advantages of total abstinence in the army, and I can testify to the evil results of the treatment of cholera cases by doses of alcoholic liquor. In my own case, when I suffered, in 1864, from a severe attack of gaol fever, the doctor was going to give me a stimulant, and I said, "Oh, spare me that!" I was shut up by the doctor saying to me that I was a patient then, and not a doctor. I put the doctor's finger on my pulse, and I said to him, "Tell me if that requires a stimulant." The good old doctor then said, "We will see to-morrow." The next day I was better, and that settled with me the question of stimulants in fever. In India, when the soldiers in my district had pockets full of money and canteen facilities for spending it in every corner, I am able to say that, as chairman of the executive committee of the Soldiers' Total Abstinence Association, under the good Mr. Gregson, the great problem was solved, and the men could do the hardest work in India with nothing but water as an ordinary beverage. I can tell you that engine-drivers in India have enjoyed great advantages from being teetotalers. They were always to be depended upon, and got plenty of work; and when great men were about to travel, the services of the engine-drivers who were total abstainers were always called into requisition for their protection. The total-abstaining engine-driver was "Ready, aye ready," and he got his reward.

Dr. HEYWOOD SMITH, London, said: I have great pleasure in moving a vote of thanks to the directors of the Scottish Temperance League and the committee of the Scottish branch of the British Medical Temperance Association for their kindness in inviting the members of the British Medical Association to breakfast this morning. In doing so, he referred to the difficulties medical men experienced in dealing with the richer classes in connection with the use of alcoholic liquors.

Surg.-Gen. MOFFATT, in seconding

the motion, testified to the greater efficiency of a regiment in which there were many total abstainers, as compared with one in which there were almost no abstainers. Anyone who had any experience of the two would be astonished at the contrast between them. In a temperance regiment the hospitals were empty, the commanding officer had nothing to do, and he need hardly say that the chaplain's work was greatly increased.

Dr. STRACHAN, Dollar, said he would like to press a point, which he regarded as of some importance, upon this association. He perfectly agreed with all that had been said with regard to the results of the entire liquor traffic, but long study had convinced him that the great evil was in the strong drink—the whisky, brandy, and gin—and his proposal would be to have these legislatively included among poisons, and sold only in the druggists' shops. He believed it would be impracticable to carry out this policy with reference to the general use of alcohol, but he was sure that many thousands would agree to have the stronger drinks done away with altogether as an article of traffic, who would not go in with total abstinence. He was convinced that it was the use of strong drinks that produced disease and death to an alarming extent. He believed it would be a practicable aim, in such a society as this, to endeavour to shut up, not the victims of strong drink, but the strong drink itself. He had long thought on this subject, and he believed that such a system would be of great value.

Professor GEIKIE, Toronto, said he admitted all that could be said as regarded the nobleness of the medical profession, and as regarded the proper estimate of the extent of the evil of intemperance, and the extent of their influence to attack this evil. He hoped that the result of this meeting would, as Dr. Kerr had said, be a great accession to the membership of the League. The enormity of this great evil of intemperance is seen in such streets as the Gallowgate of Glasgow and the Cowgate and High Street of Edinburgh. Let them show the example

of total abstinence, hoping that their influence would permeate for good down to the very lowest strata.

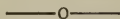
Dr. P. A. YOUNG, Edinburgh, proposed that a very hearty vote of thanks should be given to the speakers for their addresses, and said that they would still further show their appreciation of the efforts of the speakers by joining the ranks of the British Medical Temperance Association either in Scotland, England, or Ireland.

Mr. JOHN WILSON, J.P., Hillhead, in moving a vote of thanks to the chairman, said they had got great encouragement from the speakers that morning, so far as the medical aspect of this great question was concerned; and he was sure that all of those present who belonged to Glasgow were glad to see the medical profession in their city. They were also glad to

see so many medical men sitting at these tables and enjoying the addresses in relation to temperance.

The CHAIRMAN, in returning thanks, said he had always felt that he was far more indebted to the temperance cause than it was indebted to him. When he thought of the young men who started life with himself, and of what had become of many of them, he felt that no man, if he was not an abstainer, was perfectly safe from the evil of intemperance. He had now been an abstainer for fifty-seven years, and he was glad that his saintly father, as Dr. Kerr had called him that morning, had set him such an example.

The Rev. Canon BARKER closed the proceedings with the benediction, and the company separated shortly after ten o'clock.



STRYCHNINE IN ALCOHOLISM.

By VALERIUS IDELSON, M.D., *Berne.*

At a meeting of the Novgorod Medical Society, Dr. E. I. Lebedeff communicated an interesting case ("Proceedings of the Novgorod Medical Society, 1887," p. 33) of acute alcoholism of a (so to say) therapeutic origin, in which he had successfully used tincture of *nux vomica*. A previously non-drinking lady, suffering from a severe puerperal parametritis of two months' standing, was advised by her former medical attendant to take occasionally about half a wine-glassful of port wine or *vodka* (aquavit), on account of paroxysms of an excruciating pelvic pain. Since the pain was almost incessant, while, on the other hand, the remedy recommended gave actually a marked, though temporary relief, the lady soon reached a daily dose amounting to about half a bottle of port wine or brandy. By the end of a month there appeared sleeplessness, hallucinations of sight and hearing of a terrifying character, trembling of the tongue and limbs, an uncontrollable incessant craving for

drink—in short, there developed a typical delirium tremens. Frequent doses of tincture of *nux vomica* (the exact dosage not given), and hydrate of chloral as a hypnotic at bedtime, removed all the symptoms (including craving) as swiftly as radically.

Dr. Serghei V. Iaroshevsky, of Samara, publishes his second important paper (*Meditzinskoïe Obozrenië*, No. 2, 1888, p. 194) on "Antagonism existing between Alcohol and Strychnine." His first communication on the subject (made at the Moscow general meeting of Russian medical practitioners in 1886, and briefly alluded to in the *Provincial Medical Journal*, August, 1887, p. 372) dealt with clinical and experimental questions concerning sub-acute and chronic alcoholism, and the influence of strychnine on the development of toxic phenomena. A scarcely deniable great practical importance of the matter will probably excuse our returning to the author's former paper, and adducing some interesting details.

The first series of his investigations consisted of six experiments (on dogs) of from thirty to 107 days' duration. Three animals (an adult bitch and two puppies), received alcohol alone. The bitch (weighing sixteen pounds) took in all forty-five ounces of a 65 per cent. alcohol (the daily dose varying from half to three ounces), and died on the thirtieth day of the experiment. The puppies, aged twenty-six days, and weighing each about 3 lbs., took—one eleven, the other twenty drachms of a 42 per cent. alcohol (in the daily dose of from two to four drachms), and both died on the seventh day. The other three dogs (a pregnant bitch, weighing 28 lbs., and two puppies, aged twenty-six days, and weighing about 3½ lbs. each) received simultaneously alcohol and strychnine, the latter being injected under the skin in the form of a solution of one grain to one ounce of water. Only one of the animals died spontaneously (on the twenty-eighth day); it was a puppy, which had received in all 146 drachms of a 42 per cent. alcohol (in the dose of from three to twelve drachms a day), and 140 drops of the strychnine solution. The other puppy took also 146 drachms of a 42 per cent. alcohol (in the dose of three to twelve drachms a day), and 140 drops of the alkaloid (in the daily dose of from four to twelve drops). It remained quite well all through, and was killed on the twenty-ninth day of the experiment. The bitch received 706 ounces of alcohol (in the dose of from one to seventeen ounces a day), and 594 Pravaz's syringefuls of the strychnine solution, or 19·8 grains of the alkaloid, the dose varying from one to twelve syringefuls. On the fifty-sixth day the animal gave birth (at full term) to seven healthy puppies. The dog was killed in apparently good health on the 107th day. A direct antagonistic action of the alkaloid was especially strikingly demonstrated in this animal by two controlling experiments. When the dog received alcohol alone in the amount of five ounces of a 65, and twelve ounces of a 42 per cent. solution, a heavy intoxication at once made its appearance; but when

the same quantities of the same alcohols were administered simultaneously with the injection respectively of five and eight syringefuls of the strychnine solution, *not a slightest* sign of any alcoholic poison could be observed. The same may be said in regard to the last week of the dog's life, when the animal was taking daily as many as seventeen ounces of alcohol, and at the same time was receiving twelve syringefuls of the strychnine solution a day. The same could be repeated also in regard to both of the puppies. The results of the *post-mortem* examination in the first group of experiments strikingly differed from those in the second. In those animals which had taken alcohol alone, there were present an intense congestion and œdema of the meninges and brain, flattening of cerebral convolutions, slight dropsy of cerebral ventricles. Meanwhile, in the two killed dogs there was detected (microscopically) nothing abnormal, beyond a slight anæmia of the cerebral substance, as well as of the kidneys and gastro-intestinal mucous membrane. Only in the fatal case of this group there were found slight hyperæmia and œdema of the brain and its membranes, and grey hepatisation of a pulmonary lobe.

In his second paper Dr. Iaroshevsky says that he has carried out two additional experiments for elucidating the action of strychnine in acute alcoholism. He took two healthy young dogs, weighing 16 lbs. each, and gave one of them three and a half ounces of a 62 per cent. alcohol in the course of about ten minutes. After the first ounce a typical intoxication, and after two and a half ounces an extreme prostration, appeared; after another ounce the animal immediately expired. At the *post-mortem* examination, there was found intense hyperæmia of almost all organs of the body, but especially of the brain and its membranes, the cerebral substance being studded with numberless punctiform hæmorrhages. To the other dog the author administered, by portions, nine and a half ounces of the same alcohol and eight syringefuls of the strychnine solution, all in the course of

twenty minutes. The first signs of intoxication (slight unsteadiness and weakness of the hind legs) made their appearance only after the ingestion of full five ounces; after eight ounces had been taken, prostration developed, the animal dying two and a half hours since the beginning of the experiment. The necropsy revealed the presence of a comparatively slight hyperæmia of all organs, and slight œdema of the

brain and its meninges; punctiform extravasations were almost absent. The remaining part of the paper is devoted to a detailed description of the results which were given by the microscopical examination of various organs in all the dogs experimented upon. The following table allows the reader to make an instructive comparison between the two groups:—

ALCOHOL ALONE.

I.—ACUTE POISONING.

(One Experiment.)

Brain and its Membranes.—Intense capillary hyperæmia, with extravasations. Swelling and fine granularity of nerve cells. Their nuclei are shrunken, fringed, granular, take in dyes but slightly, or do not take at all.

Liver.—Capillary congestion. Hepatic cells swollen; some are opaque, some granular. Lobuli indistinct. Biliary ducts narrowed.

Kidneys.—Congestion opaque. Swelling of the epithelium.

Heart.—Normal.

II.—SUB-ACUTE POISONING.

(Three Experiments.)

Brain.—Dilatation of peri-vascular spaces, with leucocytes accumulated in diverticles. Incipient hyaline degeneration of vascular walls. Nerve-cells: intense granularity of the protoplasm; generally, the same phenomena as in an acute form, but in a much more pronounced degree.

Liver.—Hepatic cells somewhat shrunken, dark granular; others opaque and swollen. Between them there are seen foreign elements, in the shape of opaque, spheric, and oblong bodies.

Kidneys.—Epithelium opaque, swollen, granular. Tubular lumina narrowed or obliterated. Malpighian bodies separated from Bowmanian capsule by exudation or a vacuole. Their capsules thickened.

Heart.—Normal.

ALCOHOL AND STRYCHNINE.

(One Experiment.)

Brain.—Capillary hyperæmia comparatively slight. Extravasations nearly absent. Nerve-cells and their nuclei normal.

Liver.—Congestion. Hepatic cells normal.

Kidneys.—Some congestion. The epithelium normal.

Heart.—Normal.

(Two Experiments.)

Brain.—Nothing abnormal, except a slight opaque granularity of some nerve-cells.

Liver.—No congestion. Nothing abnormal, beyond a few opaque, granular hepatic cells.

Kidneys.—Epithelium normal. Malpighian bodies present some morbid changes resembling those met in pure alcoholic cases, but in a by far slighter degree.

Heart.—Normal.

ALCOHOL AND STRYCHNINE.

III.—CHRONIC POISONING.

(One Experiment.)

Brain.—Nerve-cells opaque, occasionally with slight granularity. Some nuclei, slightly granular, somewhat shrunken, take in dyes but very badly. The

wall of capillaries opaque, pale, closely adherent to the adjoining cerebral tissue.

Liver.—Some hepatic cells are shrunken, and separated one from another by small heaps of leucocytes. Some cells contain fatty granules.

Kidneys.—Tubular epithelium somewhat swollen, granular. The membrane of urinary tubules is thickened. Malpighian bodies sometimes shrunken, and surrounded with leucocytes.

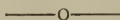
In other words, the cerebral nervous system, which undergoes very pronounced morbid changes under the influence of alcohol alone, remains almost intact when strychnine is simultaneously used. As regards the liver and kidney, the antagonistic action of the alkaloid seems to be comparatively less powerful; however, it somewhat fails only in chronic alcoholism, and even here it unmistakably retards or inhibits the development of morbid changes (cirrhosis). The general conclusions drawn by Dr. Iaroshevsky from his researches are these:—1. Strychnine most decidedly enables the animal organism to receive large quantities of alcohol for a prolonged period, without any apparent injury to the central nervous system. 2. Strychnine can be recommended in all forms of alcoholism. 3. The best results, however, may be expected in the so-called neuropathic or nervous variety of alcoholic intoxication. The drug will prove, probably, less successful in simple chronic alcoholism with classical hepatic cirrhosis.

[Since the literature on the use of strychnine in alcoholism seems to rapidly grow into something like a prominent chapter in therapeutics, it might prove of service for a future historian of medical science if we chronicle on these pages the fact that it was Dr. Iaroshevsky, and not Dr. N. M. Popoff, who first in Russia (in August, 1885) began to treat dipsomania by strychnine, and that with brilliant results. According to Dr. Iaroshevsky's statement in the *Meditzinskoïe Obozrenië*, No. 4, 1887, p. 334, the first of the two cases published by Dr. Popoff (see the *Provincial Medical Journal*, August, 1887, p. 372) was previously under his care, Dr. Popoff only continuing the method of treatment resorted to by Dr. Iaroshevsky. During a discussion which followed Dr. Iaroshevsky's first communication

(*Proceedings of the Second Meeting of Russian Practitioners at Moscow*, vol. i., sect. vii., p. 10; and *Meditzinskoïe Obozrenië*, No. 4, 1887, p. 321), Dr. Zakhar A. Zavadsky, of Kürsk, stated that, according to his personal experience, strychnine was an excellent remedy for dipsomania and acute alcoholism (see a paper of his in the *Provincial Medical Journal*, August, 1887, p. 372), but it proved of little use in chronic varieties. He never saw any improvement in organic lesions (cirrhosis, &c.) in chronic patients treated by the alkaloid. Dr. Stanislav I. Tchirvinsky, of Moscow, thought that an antagonistic effect of strychnine in regard to alcohol should be sought in its stimulating action on the medulla oblongata and spinal cord (as manifested by rise of blood-pressure, retardation of the pulse, &c.), in a direct opposition to alcohol which possessed a paralysing action on the centres named. Dr. George A. Carrick, of St. Petersburg, said that Dr. Iaroshevsky's experiments on animals did not yet justify any direct clinical deductions for a therapeutic application in man, since the action of alcohol in man was considerably different from that in lower animals. Professor Victor S. Bogoslovsky, of Moscow, warned against a wide public propaganda of strychnine as an antidote for alcohol; since, on one side, it could lead to a further increase in alcoholic excesses, while, on the other, it could give rise to habitual "strychnophagia" or "strychninism," analogous to habitual cocaineism, morphinism, opio-phagia, &c. Entirely differing from Professor Bogoslovsky, Dr. Zavadsky emphatically expressed his belief that nothing but good (including a rise in human morality) could be expected from an antidotal use of strychnine. He quoted, in support, a recent case of his own, where a hopeless drunkard, cured by the alkaloid, had become an

excellent husband and father. In the *London Medical Record*, December, 1887, p. 543, there may be found a strikingly successful case, published by Dr. Berblinger, of Riga. A preliminary note on strychnine in alco-

holism, by Dr. Korona, of Tiflis, is reported in the *London Medical Recorder*, March, 1888, p. 16.—*Rep.*] *Provincial Medical Journal*, May, 1888.



THE DISEASE OF INEBRIETY AND ITS TREATMENT.*

By T. D. CROTHERS, M.D., *Hartford, Conn., U.S.A.*

IT is a fact of historic interest that inebriety was called a disease long before insanity was thought to be other than spiritual madness. On an old papyrus found in one of the tombs of Egypt, dating far back into antiquity, was found a clear, explicit recognition of the disease of inebriety. Herodotus wrote, four centuries before the Christian era, that in drunkenness both body and mind are sick. Diodorus, Plutarch, Chrysostom, and Alpius, the Roman purist, all mentioned the disease of inebriety long before and after the Christian era. From that time down to the present century this fact has been mentioned by scientists and philosophers in almost every age. By a strong shifting of events, insanity, which was supposed to be a spiritual affection until a comparatively recent date, is now studied as a physical disorder; while inebriety, which was mentioned as a disease twenty centuries ago, is still invested with the superstition of a spiritual origin. At last, within a quarter of a century, this great truth has been formulated and organised into the realm of practical science. This is a discovery in science, evident from the sharp contradiction which it has provoked, and the same opposition and battle which every new truth must encounter before it is accepted. In the first surveys of a new country only a few general outlines are marked out, leaving wide gaps and stretches to be filled up by other and further studies. In like

manner the purpose of this paper is to point out some outline facts of the disease of inebriety and its treatment, and indicate, not only the few facts known, but the wide ranges of the unknown, awaiting future discovery and study.

When inebriety is seen from a scientific point of view, it is found to be controlled by laws, which vary according to certain physiological, psychological, and physical forces, of which heredity, environment, culture, nutrition, brain and nerve vigour, &c., are prominent. When accurately recorded histories of many cases of inebriety are studied and compared, certain fixed ranges of causes appear which seem to follow some regular order of movement. The following is an outline of those causes: 1. Certain conditions of heredity, certain physical and psychical shocks, and nerve injuries in a large proportion of cases, are followed by inebriety. 2. Certain structural changes of the brain and functional irritations precede inebriety in many cases. 3. Certain unstable brain organisations, irregular, retarded, and defective brain developments, manifest in great feebleness or intense activity, are intimately associated as apparent existing causes with many cases of inebriety. 4. Certain diseases seem to have a special predisposition to develop into inebriety with or without any exciting causes. These conditions are uniformly found either alone or combined in all perversions, certain disturbances of nutrition, and nerve cases of inebriety. The outbreak of inebriety varies widely, and is gradual and obscure at first, or sudden and precipitous.

* Read in the Medical Section of the International Medical Congress held at Washington on Sept. 7, 1887.

It may be masked for a long time, or may be very prominent, with long, irregular halts. In the first group of causes the inebriety may be of the dipsomaniac type, appearing suddenly. In the second group it is often concealed for a long time; in the third group long halts and apparent recoveries occur. In the fourth group it begins suddenly, and is of short duration. In the second and third groups inebriety is not unfrequently a symptom of insanity and general paralysis, and these diseases follow from inebriety.

The craving for spirits is not the disease, but only the symptom or expression of the disease. It is the demand of the disordered governing centres and general organisation for relief; and alcohol, as a narcotic, supplies this demand most perfectly. Often the first use of alcohol acts like a spark, concentrating and exploding the diseased tendencies which may have been forming or transmitted from the past. Also it may give an impulse or impress to a feeble, unstable organisation, that quickly merges into inebriety. In these cases a train of degeneration is started which will ever seek relief from alcohol. The more impulsive and intense the desire for spirits, the greater the degeneration. When the craving is paroxysmal, with free intervals, the degeneration is central and profound. All these periodical and paroxysmal cases are closely allied to epilepsy. The free intervals may recur with uniform exactness in time and duration. In some cases the return of the drink paroxysm may be predicted with as much certainty as an eclipse of the sun, and the duration of the paroxysm rarely varies more than a few hours. In other cases the paroxysms, both in length and free intervals, are irregular and uncertain, appearing unexpectedly and ending suddenly, in adverse conditions apparently. Thus, in some cases, the inebriate will begin to drink under the most opposed circumstances and surroundings, and will stop suddenly under equally adverse conditions, beyond all rational explanations to account for such acts.

In certain cases, the appearance of health and the confident hopefulness of the patient are signs of the approach of a paroxysm. Great mental and muscular activity is often followed by an outbreak of inebriety, lower in degeneration than before. These strange and mysterious phenomena are undoubtedly governed by laws that will be known in the future. Such inebriates, like epileptics, have distinct nerve storms and explosions of morbid energies. This is literally a great dark continent of the most fascinating psychological interest.

When inebriety is developed, either continuous or periodical, there are distinct traces of a regular order of symptoms. Other diseases may complicate and cover up the order of the march, but sooner or later the same symptoms appear, following the same order. Thus certain brain palsies of the highest centres, certain delusions and hallucinations, certain psychical manias and melancholias, certain morbid impulses and functional perversions, associated with anæmias, hyperæmias, and a great variety of complex symptoms, are sometimes masked with the appearance of health, but generally they are apparent.

A certain number of inebriates, morbidly conscious of their condition, live in the thought of their wickedness and misery; humiliation is coupled with a delirious faith of recovery; they are pleased to serve as examples for others; exalted delusions and delirious manias are always present. Another large class seem thoroughly unconscious of their condition. They have delusions of strength to recover, and believe all accounts of their danger or weakness are exaggerated for the purpose of creating alarm in them. This sense of danger grows less, and their faith in themselves increases in steady progression on to death. Although the action of alcohol may differ widely in different cases, the same general symptoms mark all the stages of acute and chronic degeneration.

Inebriety in America is becoming more and more distinct in intensity and maniacal symptoms. The use of

alcohol is more precipitate, followed by mental excitement, delirium, nerve and muscle exaltation and depression. Increased culture and intelligence takes away the coarser and more repulsive symptoms of inebriety, but increases the maniacal and suicidal phases and mortality. Inebriety is more concealed to-day than ever before, and more intimately allied with, and terminates more often in, pneumonia, Bright's disease, apoplexy, and various organic and heart affections. Inebriety is increasing, as is shown by the fact of the increased consumption of alcohol in this country and the increased number of persons arrested for inebriety in our large towns and cities. The dipsomaniacs and the intermittent and periodical inebriates are increasing, and the moderate drinkers are diminishing. From a variety of evidence, as yet in outline, it appears that inebriety moves in waves and currents, prevailing like an epidemic, then dying away. This seems to be evident from the statistics of persons arrested for inebriety, and from comparative studies of the numbers of inebriates in different countries. From these data it appears that inebriety steadily increases up to a certain maximum point, then declines to a minimum number, resembling a tide-like movement of continuous ebb and flow. Some of these drink cycles have a period of about eight years. In Sweden it is fourteen years; in other countries it is less. The consumption of spirits in England was found to follow a similar ebb-and-flow movement of eight or ten years. These great movements seem to be beyond any range of causes that will explain their presence. They have been traced in cities and villages of New England in many instances, where it is clearly evident inebriety prevailed at certain times to great excess, then died away, only to reappear again after a lapse of years. The evidence is steadily accumulating, pointing out these great drink cycles, which, like storms, gather and increase up to a certain period, then die away. The great unknown forces and laws which regulate these drink epidemics await discovery.

When they are known, then much of the mystery of the strange temperance revivals and agitations, which spring up and sweep over the land, dying away as suddenly as they appear, will be cleared away. Temperance agitations have a strange wave-like movement, evidently controlled by laws unknown. Who will doubt that they may not be the reactions of some high tidal waves of inebriety—the backward swing of some great drink cycle—a psychological protest and consciousness of the presence of some high point of inebriety, which will recede, and with it the agitation will die away. These are but hints, and faint outlines of facts and forces that control inebriety far above the roar of theoretical agitation and personal resolution. Inebriety is a disease governed by certain fixed causes which follow a certain order of events, and the evidence of these and other facts are clearly within the range of a more accurate study and a wider intelligence to remedy and prevent.

In the efforts to check and prevent inebriety, the interest and agitation are increasing far beyond all rational knowledge of the subject. The following are some of the theories on which the present efforts for cure are based. Moralists assume that inebriety is always a vice and sin, the only treatment of which is prayer and conversion. Temperance men and reformers call inebriety the result of a weak will power, and urge the pledge and the force of societies as the only real cure. The temptation of saloons and the facility of procuring spirits are supposed to be active causes, to be broken up only by prohibitory legislation. Ignorance in childhood of alcohol and its effects as a cause is supposed to be remedied by forced instruction in the common schools concerning the nature and character of alcohol. The theory most widely believed is that alcoholic excess is a sin and crime, to be cured by punishment and suffering. It has been stated that in this country during 1886 over 300,000 persons were arrested for inebriety and punished by fine and imprisonment. Yet it is the unanimous testimony of all competent

observers that such means for restraining inebriety not only fail, but increase the very disorder they seek to remove. Every individual sent to gaol for inebriety is made more unfit for temperate living, and further removed from health and capacity to recover. He goes to gaol with impaired nutrition and degenerate brain and nerve force. He is suffering from brain anæmia and structural changes, with mental exaltations and depressions. In gaol the quality and quantity of food is ill adapted to restore and build up the weakened organism. The hygienic influences are wanting, the mental influence is bad, and the associates and surroundings still further depress and weaken the mental vigour necessary for restoration. The only compensation for this is the removal of alcohol, which is often a small factor in the treatment. All this and much more can be read in the anæmic faces, tremulous eyes, and depressed movements of inebriates in gaols and prisons. Happily the great delusion of inebriety being a moral disorder, a vice, sin, and crime to be punished, is passing away. In past ages the phenomena of nervous diseases and insanity were regarded as moral disorders, to be remedied by law and Church influence. These remedies, applied most vigorously, made no impression; insanity and nervous diseases steadily increased. To-day history repeats itself in the punishment of inebriates and the efforts of the Church and society to stop drunkenness, while the army of inebriates goes on increasing. As long as the causes are unknown the remedies will fail.

All exact study of the facts indicate that the disease of inebriety is both curable and preventable. We must realise that inebriety is a dangerous disease, not only to society, but to the victims, requiring restriction of personal liberty and legal guardianship, under medical care, in special surroundings. Like victims of contagious diseases, inebriates should be quarantined and forced to come under treatment. Society should not tolerate their presence, or permit them to

injure themselves and imperil others by their acts. Dr. Bellows said long ago: "Inebriates will all eventually be restrained in hospitals and treated medically the moment their liberty becomes dangerous to society." The terms of their confinement will be limited by the conditions and cure of the disorder. Society gains nothing by holding any man prisoner who is fit to be at large; liberty and human rights gain nothing by allowing any man to be at large for a moment who is destroying himself, his family, and his neighbours. Facts and experience show that this can be best accomplished in workhouse hospitals, where restraint and other appliances can be gathered. These hospitals should be military training asylums, where medical care, restraint, occupation, and general treatment, can be applied for long periods. They should be divided into three classes; the first for the chronic incurables, the second for recent cases and the middle classes, and the third for private and wealthier patients. The first and second classes of these military hospitals should be built from the moneys received from the licensed fund, and supported by the same fund and the labour of the inmates. The first class—that for the chronic cases—should be placed in the country on large farms, where various occupations could be profitably carried on. They should be managed by a board, with an expert superintendent, the same as in all State charities. The government should be of military exactness, and every condition of living and surrounding regulated with steady uniformity. Each case should be studied, and a course of treatment pursued that would build up both the mental and physical organisation, providing also rest, change, and occupation, in exact surroundings, where every defect is antagonised, and every element of health encouraged and strengthened. The pauper inebriates who are now sent to gaol, and inebriates of all grades, should be committed to these hospitals for periods of not less than five years. On apparent recovery within this time, they should be permitted to go out on

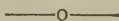
parole, to be returned at once on relapse. Each one should be employed, and, if possible, be self-supporting. Practically, the final cure of persons in this class might be limited to exceptional cases, but the gain to society and civilisation by housing and treating these poor victims would exceed all computation. The second class of hospitals should be smaller, built in the same way, and conducted on the same plan of exact military care and medical treatment. In the case of persons of limited means who could pay some part of their expenses, and recent cases, who would come voluntarily or by force, under this restraint, for from one to three years' commitments, the same system of parole and occupation should be employed. The third class should be private hospitals, under the same general management and plan. Rest, medical care, change, and occupation, should be suited to the needs and demands of all who could command them. They should be built by private enterprise, and be under the general care of the State. Benevolence would endow these places, and the special means of treatment would accumulate rapidly. The great principle of treatment would be, in all these hospitals, to quarantine and house the patient, and treat all the conditions which enter into the disease as well as the disease itself.

These are outlines of the hospitals to be built in the future, the practical success of which is demonstrated in many ways. The inebriate hospitals of to-day are struggling in this direction amid difficulties that would crush out any other work not founded on great principles. The legal power of restraint is limited to months instead of years. Nearly all these hospitals are wanting in location, surroundings, and means of support, except from the income of patients. Means and appliances for occupation and thorough medical care are wanting in many cases. Public sentiment and friends of patients will not sustain the physician in his efforts and methods of treatment. False pride in the friends of patients keeps them away from all hospital treatment, until they are be-

yond reasonable hope of restoration. Then, as a last resort, they are sent to such places, expecting some extraordinary change. These are only a few of the great difficulties which beset all hospitals for this class, and yet unmistakable evidence indicates a large percentage of positive cures. All authorities agree that over 20 per cent. of all classes treated by the most imperfect means and appliances are cured. The nature and character of inebriety is so largely unknown that its treatment will vary with the hospital and its management. Enthusiasts and non-experts occupy the field in many cases, and try methods of treatment that wider intelligence would condemn. There are three classes of hospitals for inebriates in this country. The first recognises the disease of inebriety, and aims to treat it on thoroughly scientific principles. The second-class treats these cases as half disease and half vice, giving prominence to moral means over all physical remedies. The third class are the specific physicians, who adopt special remedies, which are empirical and unfounded on any sound knowledge of such cases. The treatment, like the study of inebriety, is passing through the stage of empiricism; yet, with all the confusion and ignorance which of necessity surrounds these efforts, the actual results far exceed the most reasonable expectation. It may be safely said that no medical field presents more difficulties for the student, as it stretches along the frontier land of sanity and insanity; and no medical field promises grander results in the redemption of the race and requires a higher order of talent than the study and treatment of inebriety. These are some of the teachings of science, which are like headlights far above the mists and fogs of theory. From these points we shall discover the sources and forces which develop inebriety and indicate the means of cure and prevention. From this standpoint the possibility of restoring the inebriate and stamping out inebriety is only limited by our want of knowledge of the laws and means to accomplish this end. Pausing on

the confines of this almost unknown realm of mental disease, and looking over into the darkness of theory and temperance agitation, and empiric efforts to know and cure this disorder, we are assured that here, as elsewhere, the same eternal reign of law and order exists. Here we shall find the same causes and effects, the same circumstances and conditions, which are active in developing the epileptic

and the insane, the inebriate and the criminal, all following some unknown lines and obeying some unknown forces as fixed and eternal as that which governs the planets. Along this border line science is gathering its forces, and, like the problem of the stars, its mysteries can only be solved along the line of accurately observed fact.—*Lancet*.



ALCOHOLIC PARALYSIS.

By J. C. VAUGHAN, M.B., C.M.Ed., *House Physician, Bradford Infirmary.*

THE affection to which the term alcoholic paralysis has been generally applied has been more or less clearly recognised since the earlier part of the present century. In 1822 an American writer, Dr. James Jackson, described a "peculiar disease resulting from the use of ardent spirits," and his description has been quoted in the eighth volume of *Brain* by Dr. Dreschfeld, of Manchester. Jackson describes the disease as coming on gradually, the first noticeable symptoms being pains in the feet, extending afterwards to the hands and arms. In all advanced cases the pain is more severe in the distal than in the proximal segments of the limbs, and while the disease begins usually first in the feet, in some cases the hands may first be affected. At length the hands and feet become nearly useless, the flexor muscles, as in some other diseases, manifesting greater power than the extensors. Jackson further alludes to emaciation or wasting of the whole body, especially of the hands and feet, and notices that the skin on these parts comes to have a peculiar appearance consisting in "a smoothness and shining with a sort of fineness of the skin." The integuments look as if tightly stretched without rugæ. The pain, he further says, sometimes shoots suddenly up one or both legs, or up into the back.

The next mention of this remarkable affection is made by Magnus Huss, in 1852, with the title of "Alco-

holismus Chronicus." Later on, Wilkes, Lockhart Clarke, and Reginald Thompson, Lancereaux, Mölele, and others, and still more recently, Buzard, Broadbent, Hadden, Bristowe, Dreschfeld, and others in this country, and Hun in America, have written on the subject. A good account of the disease and the reports of several cases may be found in volumes seven and eight of *Brain*, given by Professor Dreschfeld, who divides the affection into two varieties: alcoholic ataxia and alcoholic paralysis, an arrangement which has since been adopted by later Continental writers on the subject.

Dreschfeld's Alcoholic Ataxia attacks principally males between the ages of thirty and forty. Its symptoms come on gradually, and chiefly consist in "marked inco-ordination of the lower extremities, absence of tendon reflex and lancinating pains," differing from his alcoholic paralysis "in the absence of hyperæsthesia, hyperalgesia, and vaso-motor and trophic disturbances, and in the absence of paralysis, atrophies, and cerebro-mental disturbances. They may be distinguished from ataxia, the result of sclerosis, by their constant coincidence with marked alcoholic habit, *together with* the absence of the ocular-motor symptoms, and of the arthropathic phenomena described by Charcot, while a farther point in differential diagnosis, and one of crucial import-

ance, is the remarkable subsidence of the ataxic phenomena on the enforcement of total abstinence."

Alcoholic paralysis is, on the other hand, confined mainly to "females who, though they deny the abuse of alcohol, have suffered from symptoms of chronic alcoholism (morning vomiting, gastric catarrh, hæmatemesis, &c.), previous to the appearance of nervous symptoms." These latter are sensory, motor, vaso-motor, trophic and mental disturbances.

The sensory disturbances are usually the most marked, and consist mainly of hyperæsthesia and hyperalgesia, both of these, however, may be present only to a limited degree. Often there is a perversion of thermal sensibility, all objects being described as cold, and co-existing with this there is sometimes a constant sensation of cold, especially in the extremities. Lancinating pains are also often present, and may be excited or increased by pressure on the affected nerves.

The motor disturbances consist mostly in paralyses, chiefly in the lower limbs, sometimes in both upper and lower, and, as in one case of Hadden's, it may even be universal, and gradually and distinctly progressive. The muscles in the affected limbs show the reaction of degeneration, and to the interrupted current their sensibility is markedly diminished. The superficial reflexes and the myotatic irritability are lessened or entirely abolished, while a peculiar tremor and inability to co-ordinate the movements of the fingers may in some cases become very marked. Atrophy of the muscles supplied by the afflicted nerves, general emaciation, redness of extremities which may sometimes be blue, may be included in vaso-motor disturbances, and the formation of bed-sores has been noted in some cases.

Sleeplessness, delirium, often of a lively pleasant character, often of a peevish kind, and hebetude, are the chief cerebro-mental disturbances, and in this delirium patients will betray that craving for alcohol which they had previously stoutly denied.

It is alcoholic paralysis and not ataxia which has been described by most writers, and the term alcoholic paralysis as used by us in the earlier part of this paper was there used more in a general sense.

Of the pathology of this affection not much is as yet known. Evidences are, however, not wanting in favour of the view that probably the affection is peripheral paralysis. Continental observers are almost unanimous in asserting that there is no change in the central nervous system, only one case (Moële) having been found to show changes simulating sclerosis. The most usual changes found are those characterising a multiple neuritis. The myeline of the nerve fibres being broken up, and there being an increase of nuclei in the connective tissue of the nerve trunk. No marked inflammatory changes can be found in the muscles. On the other hand, in our own country, while all are agreed as to the lesions in the nerve trunks, cases are recorded—as one by Dr. Hadden—in which there was atrophy of the brain in the frontal region, and indistinctness of the grey matter in the upper dorsal and cervical regions of the cord, while lower down the cornua seemed slender and pale, but here the neuritis was not primary. The changes in the cord are open to another explanation.

Reginald Thomson, in 1868, had recorded cases in which there was atrophy of nerves and patches of softening of the cord, but here no microscopical examination was made. Another case has been recorded in which the cord was exceedingly pale; and, further, the opinion has been expressed by De Watteville, and recently adopted by Erb, that the disturbances are not wholly due to a peripheral paralysis, but to some dynamic alteration in the cells of the anterior cornua of the cord. Others, as Dr. Wilks, have said that some degree of fibrous change may well be expected in the cord at least.

In lead poisoning somewhat similar changes constituting practically a peripheral neuritis have been found in the muscles, and spinal and other

nerves. Coincident changes have not been found in the brain, but in the spinal cord Vulpian has noted vitreous degeneration and atrophy of the ganglion cells of the anterior horns. Monakow has recently made a similar observation, whilst others have failed to find any changes. In progressive muscular atrophy, on the other hand, while in the pains and atrophy and paralysis there may be a certain remote clinical resemblance to lead poisoning and even to alcoholic paralysis, there are also changes in the nerve trunks, but mostly in the intra-muscular portions, which changes more or less resemble those found in lead poisoning; here, however, there are almost always discoverable marked, or, at any rate, distinct signs of atrophy in the anterior root zones of the cord. Thus, of these three diseases, progressive muscular atrophy seems to show changes, most markedly in the cord, and not to any important degree changes of the nature of a peripheral neuritis. Alcoholic paralysis shows changes which are most markedly of peripheral character, cord and brain lesions being practically unknown, while lead poisoning occupies a middle position showing changes of the nature of a peripheral neuritis and, superadded to them, distinct changes in the motor ganglionic cells of the cord. This curious pathological relationship is borne out to some extent in their symptomatology, but time and space do not admit of tracing out the likeness thus briefly indicated. But although alcoholic paralysis is at present compelled to occupy the place of a peripheral neuritis, it is hard to say that it should never prove a disease to be classed among those in which the lesions are really mixed, *i.e.*, both central and peripheral. To say, with De Watteville and Erb, that there is probably some dynamic alteration in the ganglion cells of the cord, is, in the present state of our knowledge, saying but little; but, on the other hand, the production of visible lesion by dynamic disturbance may be only a question of time, or at any rate the discovery of a change produced by so subtle a poison may prove only

dependent on the improvement in our methods of histological research.

Case.—F. S., æt. 36, admitted June 13th, 1887. On admission was not in possession of her mental faculties, and appeared confused in mind, not knowing where she was, or how she had come to her new surroundings. She could not give any reliable account of herself, and hence for some time nothing definite could be learned as to her history. At length it was ascertained that she belonged to a travelling troupe of actors, and had been much given to alcohol.

It appeared that for some time before admission she had been complaining in a vague way of not being well, and a friend who came with her said that she had suffered for a few weeks with rheumatic pains in the legs.

On admission she was in fair general condition, and beyond her confused mental condition and her vague complaints there was nothing obviously morbid to be noticed, but her grasp was weak, her hands and tongue tremulous, and her general appearance was that of an alcoholic. On the day after admission she complained of pain down the left thigh, and the next day of pain in the other thigh. Movement, as turning in bed, was now rather painful, but patient was quite able to get up and go about, and although continuing slightly confused mentally, she was docile and obedient. A day or two later she suddenly lost the power of both legs, and during the whole of the following day complained greatly of pain in the legs and thighs.

The case now presented the following points: *Sensory Phenomena.*—Sensations of cold in the extremities, especially below the elbows and knees. Pain sometimes of a sharp shooting character, but usually dull, and aching felt in the hands and forearms, and in the feet, legs, and thighs; to a small extent also in the back, while the least pressure of the muscular masses in the limbs would make patient cry out with pain. Tenderness also was now distinct in the course of the great sciatic nerves on both sides.

Motor Phenomena.— There was

complete inability to stand, and she could scarcely sit up in bed, while her grasp was weak, and the least effort to use her hands brought on a continuous tremor. The attitude was remarkable. She lay on her back, with legs a little apart and slightly flexed, the feet extended and "pointing." The arms lay heavily by her side, with slight wrist drop. Mouth partially open. The patellar reflex so-called was abolished on both sides. No ankle clonus, and superficial reflexes lowered. The organic reflexes were normal.

Trophic Phenomena.—The skin was dry and a little thin looking, but did not show the typical "glossy" appearance, and the muscles of the forearms and calves of the legs were beginning to waste. Occasionally sweating noticed.

Cerebro-mental Phenomena.—The mental confusion noticed on admission had now passed into a delirium, which is at times mild, and in which she talked pleasantly and in a semi-rational way. She frequently asked for beer and whisky and gin, refused her food, and only ate it after extorting the most absurd promises from the nurse in attendance and from myself. She was also sleepless and restless at night, starting awake at times.

The pulse presented a peculiar regularly recurring irregularity, not always observable, and at other times was simply intermittent, about one beat in sixty being missed. Since admission the pulse rate had been about 120, and the peculiar character above referred to had all along been present. Examination of other organs gave negative results. Urine free from albumen.

On the 29th, sixteen days after admission, a tumour suddenly presented itself in the left ilio-lumbar region. Last menstruation had stopped suddenly about ten days ago, and the tumour was supposed to be a hæmatocele. In the right eye conjunctiva a little glazed, and lachrymal secretion frothy and scanty. Right normal.

June 30.—Respiration heavy, 42. Pulse 120. Intermittent abdominal swelling rapidly increasing. Ice bag

applied to it. In the evening pulse rose to 132. Patient more listless. Still in wandering delirium.

July 2nd.—Pulse 132, poorer in quality. Tumour decreasing. Patient very listless and thirsty. *Paradic irritability* now very much decreased. Almost quite gone in lower extremities. Not so far lost in upper extremities, remaining most distinct in flexors and in triceps. Extensors of hand respond very little. *Atrophy* of calves of legs and of forearms and upper arms very marked. Emaciation has advanced rapidly from time of paraplegic attack.

10th.—Has been very noisy since last night, but has quieted again. 10 a.m.—Respiration now markedly of ascending and descending rhythm (Cheyne Stokes). 4.30 p.m.—Respiration more regular and shallow. At midnight respiration quite irregular. Pulse 120, intermittent, feeble.

11th.—Tenderness in muscles very marked. Pupils unequal. Left about twice the size of right, which is of medium size. In this condition, varying a little, patient remained till July 14th, when she quietly sank and died.

On post-mortem examination, forty-six hours after death—body emaciated. Rigor mortis slight. On opening abdomen a tumour of about the size of a cricket ball found in left side of pelvis projecting up above pelvic brim into abdominal cavity proper, and adherent to the abdominal wall. Found to be in left broad ligament, and to consist mainly of inflammatory products. Contents of pelvis removed, and on examination showed extensive cellulitis, mainly extra peritoneal. Liver fatty, spleen not enlarged, kidneys fatty, heart and lungs healthy. Skull cap removed, and found of moderate thickness. Dura mater showed nothing special. Pia mater rather œdematous, but not to any great extent. No excess of cerebro-spinal fluid. Brain substance feels firm. Base showed nothing abnormal, and on section nothing specially noticeable, except that cerebro-spinal fluid seemed largely in excess. Spinal cord examined. Membranes showed nothing peculiar. Substance of cord seemed firm, and on section there

seemed no special lesion discoverable. At a few points there seemed some injection of blood-vessels, but not to any marked extent. In the other parts the cord seemed pale and anæmic. Microscopical examination of cord failed to show any definite lesion. Examination of the sciatic nerve showed distinct evidence of well-marked neuritis. The case thus detailed is evidently to be classified among those to which Dreschfeld has applied the term alcoholic paralysis as used by him in the restricted sense. The case is peculiar in the sudden onset of the paralytic symptoms, but there is nothing special beyond that, except the peculiar respiratory rhythm

observed at the latter part of the illness, and the somewhat unusual complication of a pelvic inflammation. The rarity of the affection, and the increasing scientific interest of the day in the discussion of difficult questions of diagnosis in obscure nervous diseases, must form my plea for taking up so much of your attention this evening. The credit of the diagnosis is due to Dr. Major, who attended to the case in the absence of Dr. Grabham, under whom it was admitted, and it is to the courteous encouragement of these two gentlemen that I owe the privilege of which I have to-night availed myself.—*Medical Press*, August 8.



INFLUENCE OF ALCOHOL ON THE NERVES.

By WILLIAM A. HAMMOND, M.D.

THOUGH a great deal has been recently written in regard to the beneficial and injurious influence which alcohol exerts upon the human system in health and disease, the effect produced upon the nervous structures of the body appears in a great measure to have escaped attention. And, indeed, much that has been said in the lay journals on the subject of the use of alcoholic liquors has consisted of generalisations and assertions made either from insufficient data or from no data at all.

Several years ago I undertook a series of experiments for the purpose of arriving at conclusions, as nearly exact as possible, relative to the direct effect of alcohol upon the nervous system. These were performed upon dogs and rabbits, and consisted of two series. Without going into minute details it will be sufficient to say that the first series were performed upon dogs, to which alcohol, in quantities of from one to three ounces, diluted with equal amounts of water, was administered by the stomach.

The study of the symptoms observed was exceedingly interesting, but it would be somewhat out of place for me to give them in full on this occa-

sion. They may be arranged into three groups.

1. *Period of Excitation*.—Uncertainty in the movements of the limbs, acceleration of pulse and of respiration, contraction of the pupils.

2. *Period of Perversion*.—Muscular paralysis beginning in the posterior extremities, irregularity of pulse and of respiration, dilatation of the pupils.

3. *Period of Collapse*.—Complete paralysis of motion, anæsthesia, feebleness of the pulse and of respiration, stoppage of respiration and of the heart's action, death.

EXPERIMENTS ON ANIMALS.

Now, I was desirous of knowing how much of each of these conditions was due to the presence of alcohol in the blood circulating through the brain, and how much to disturbance in the quantity of blood normally present in this organ. I therefore arranged a series of experiments by which any increase or diminution of the amount of blood contained in the brain could be exactly determined. I then gave the animal an ounce of alcohol, diluted with an equal quantity of water. In fifty seconds I detected alcohol in the air expired from the lungs.

In four and a half minutes the respiration was accelerated, the action of the heart became more rapid and strong and the pupils were beginning to contract. Still there was no increase in the intracranial pressure, and I therefore knew that up to this time the amount of blood in the brain had not been augmented. In six minutes and a half the dog's gait was staggering, and though its movements were uncertain, as if from vertigo, there was no paralysis. The intracranial pressure was still unaltered. The fluid remained stationary in the tube of the instrument for seventeen minutes. Then it began to rise slowly, and with this increase in the intracranial pressure paralysis of the posterior extremities supervened. As the amount of blood contained in the cranium became greater, the paralysis extended, the pupils dilated and stupor ensued.

DEDUCTIONS.

The deductions to be made are that the first symptoms which result from the taking of alcohol into the system are due to the circulation of this substance through the blood-vessels of the brain, while the latter phenomena are, in part, at least, the results of cerebral congestion.

In man a like sequence is observed. A single glass of wine induces an exhilaration and activity of mind before there is any evidence of an increase in the amount of blood circulating in the cerebral blood-vessels.

Thus we have, as the immediate effects of alcohol upon the nervous system, a certain degree of poisoning of the brain from the direct action of alcohol upon its substance, and in the next place, an increase in the amount of blood circulating through this organ.

We are hence able to study with a considerable degree of exactness the phenomena of alcoholic intoxication so far as they relate to the nervous system. We have in the first place the stage of excitement which is characterised by a sensation of heat in the skin of the whole body and by redness in the face. The eyes appear to be larger and more brilliant, the ideas flow more readily and are of better quality than are natural to the

individual. The tendency to talk is generally increased, but the articulation is usually not so distinct and exact as is natural. The disposition becomes more generous, and there is perhaps more recklessness as to consequences, although the bounds of propriety relative to conduct and conversation are not exceeded. Occasionally a different set of symptoms results. The individual from being naturally talkative becomes taciturn and stolid, and a generous disposition is changed to one of which churlishness, selfishness, and a tendency to quarrel, are the chief features.

SUCCESSIVE STAGES.

If the quantity of alcohol had been small, or if the individual now ceases to drink it, the subsequent stages of intoxication do not supervene, and the equilibrium is soon restored without the occurrence of any abnormal condition. But if the amount imbibed has been large, or if the potations are continued, the second stage, that of perturbation, ensues.

There are now vertigo disturbances of sight, such as result from paralysis of one or more of the muscles of the eyeballs, and giving rise to double vision, contraction of the pupils, noises in the ears, and increased redness of the face. The sense of taste becomes weakened, the voice loses its natural inflections and is rough and monotonous and the articulation is indistinct, from partial paralysis and defective co-ordination of the muscles of speech.

The gait from like paralysis of the muscles of the lower limbs becomes weak and uncertain, and hence if the individual attempts to walk he staggers. The movements of the upper limbs are irregular and often exhibit marked tremor, like that which constitutes so prominent a feature of paralysis agitans, or shaking palsy, as it is called in the vernacular.

EFFECTS ON THE MIND.

Still greater alterations from the normal standard are shown in the mind. The most striking change occurs with the emotions, which generally assume an undue prominence and dominate over other of the mental

faculties. And it not infrequently happens that the feeling which is most conspicuous is the very opposite of that which is natural to the person affected. Thus the brave man becomes cowardly, the timid courageous, the peaceable quarrelsome, the modest shameless, &c. Usually, however, the emotions which the subject in his normal condition is able to control and to keep in proper subordination to the intellect and will, become exaggerated and are no longer held in subjection. It therefore happens that when this stage of alcoholic intoxication is reached the person who, while in his natural state, is high-toned and spirited, is now ready to take offence and to engage in quarrels upon the slightest provocation, and often when no cause for his emotion and conduct exists. It is in this stage that outrages against the law are most apt to occur.

The more purely intellectual part of the mind does not escape. The judgment is weakened, the memory impaired, the imagination exalted or perverted, and delusions often having their origin in disordered sensations, and often arising in the mind without any accompanying illusion or hallucination, may assume the government of the thoughts and actions. The ability to grasp the details of a subject and to comprehend them is greatly impaired, or even altogether destroyed, and hence study or continuous and systematic thought is no longer possible.

PARALYSIS.

In the third stage the full action of the alcohol is attained. The mind, the special senses, and the power of motion, are more or less completely abolished; the heart and other important organs of the body are greatly disturbed in their action, and death, generally the direct result of suspension of the respiratory movement, may ensue. When this degree of alcoholic intoxication is at its height the person is dead to all external impressions. Boiling water may be poured on his body, or his legs may be burned off in a lime-kiln, but he feels nothing; speech is impossible; the pupils are largely dilated; the breathing is slow, heavy

and stertorous; the face is swollen and purple from the circulation of non-oxygenised blood through the vessels, and the power of thought is extinct. Should the poisoning process go a little farther, so as to involve the nerve centres which preside over the action of the heart and lungs, to a slightly greater extent, life is very soon abolished.

IMMEDIATE EFFECTS.

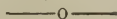
Such are the immediate effects which follow the taking of large quantities of alcohol into the human stomach. No one can fail to observe that most of the remarkable phenomena mentioned are connected directly or indirectly with the nervous system. Indeed, experiments performed upon animals with reference to this point, as well as careful observation of the effects of alcohol on the human system, show that this substance has a signal affinity for the nervous tissue, and that it is even capable of acting powerfully on the brain, the spinal cord, and the sympathetic system, before there has been time for it to be absorbed from the stomach and to act through the medium of the blood. Instances are on record, and I have myself witnessed one such, in which a large quantity of alcohol taken into the stomach has produced death in a few minutes. Orfila cites a case in which a man died immediately from the effects of an excessive dose of brandy. In the instance that came under my own notice a man drank somewhat over a pint of whisky without stopping. He immediately became deathly pale, staggered a few steps, and fell dead. I have several times killed rabbits in less than a minute by introducing an ounce of pure alcohol into the stomach. In such cases the action is not excited through the medium of the blood, but directly on the sympathetic system by the terminal nerve branches in the stomach.

ALCOHOLIC POISONING.

I have not the space to do more than mention the conditions known as delirium tremens and chronic alcoholic intoxication. The first of these is an acute form of alcoholic poisoning; the last, as its name implies, is a more

chronic manifestation. Both are especially the result of the absorption by the brain and other parts of the nervous system of the alcohol which has been taken into the stomach. I have shown by many experiments, which have been detailed in full in another place, that the nervous substance of animals poisoned with alcohol, if cut up into small pieces, soaked in a little water and then distilled, yields alcohol in very considerable amount. The brains of habitual drunkards treated in this manner give like evidence of the actual presence of alcohol. It is impossible for this substance to be in such intimate contact with the nervous

tissues without effecting radical changes in their structure. Experiments upon animals, as well as post-mortem examinations of the bodies of habitual drunkards, show this without the possibility of a doubt to be a fact. It is not strange, therefore, that there are at least twenty diseases of the nervous system, as well as every variety of insanity, which may be produced by the excessive use of alcohol. The crime, the mental and physical degradation, the social misery and the destruction of life, that result more or less immediately from the abuse of this powerful agent, are simply incalculable.—*Philadelphia Times*, April 22, 1888.



LICENSED RETREATS FOR INEBRIATES.

EIGHTH REPORT OF THE INSPECTOR OF RETREATS, UNDER THE HABITUAL DRUNKARDS ACT, 1879, FOR THE YEAR 1887.

Home Office, July, 1888.

SIR,—I have the honour to submit my eighth annual report upon seven retreats licensed by the Justices under the Habitual Drunkards Act, 1879, during the year, 1887, together with a copy of the Rules made by the Secretary of State for their management.

1. Full particulars with respect to these establishments are given in the annexed schedule.

2. Two new Retreats were opened during the year. In April, Montagu House, Brook Green, to which I alluded in last year's report, was licensed to Mrs. Smith for ten female patients. It is intended for the exclusive treatment of Roman Catholic inebriates. Towards the end of the year a license was granted to Dr. Westbury for the reception of two male and one female patients at Amesbury House. This establishment is pleasantly situated in the little town of Amesbury, on Salisbury Plain. The house is comfortable, and is in all respects well suited for the purpose of a Retreat. It is surrounded by a large garden.

3. Sixty-six patients in the aggregate were admitted to the Retreats during the year. In the previous year the number admitted was seventy-three.

4. All the Retreats have been maintained in a good sanitary condition, and I am satisfied that the patients have been kindly treated. With one or two exceptions the health of the inmates has been exceedingly good. No death has occurred during the year.

5. Several patients obtained their discharge, for various reasons, at the request of the Licensees, from the local Justices before effluxion of time, but in no case has the interference of the Secretary of State been found necessary.

6. In compliance with my request I have been furnished with reports as to the working of the Act, and the results of treatment by the Licensees of the following Retreats:—

WESTGATE-ON-SEA. — “I would again refer to the great assistance which the Act affords to those desirous of overcoming the habits of intemperance. I have much pleasure in saying that I confidently believe that two-thirds of the patients discharged from this Retreat during the year 1887 were permanently cured.”

WALSALL. — “The results from patients who have placed themselves under the Act for twelve months are very satisfactory; most of them are remaining total abstainers, and are in active work.”

RICKMANSWORTH. — "The Home continues to be well filled, and the practical result of treatment very good; but I find that the difficulty of patients entering under the Act materially interferes with the extent of its usefulness. In addition to the fourteen patients mentioned in my return, who entered under the Act, nineteen others refused to undergo the ordeal of signature before the magistrates, and came to me as 'private patients,' making a total of thirty-three admissions. Rules and regulations regarding restraint and treatment are exactly similar in every particular for both classes of patients; and intending inmates, although anxious to avail themselves of the facilities afforded by the Home for curative purposes, naturally object to publicity and what to them is disgrace, preferring to enter privately to avoid the necessary exposure. Attestation before one magistrate, instead of two, would greatly diminish the difficulty, and increase the utility of the Act. I have found no cause to alter our mode of treatment — immediate withdrawal of intoxicants, therapeutic remedies, physical employment, exercise, and hygienic measures, with intellectual, moral, and religious influences. Many patients during the year have employed themselves in useful occupations, and I have repeatedly seen great benefit accruing therefrom."

HALES OWEN. — "The work during the year past has been on the whole satisfactory. We continually receive reports from the friends of patients who have been discharged of a most encouraging character, which confirms us in our opinion that a fair proportion of them are really cured. It is much to be regretted that patients do not at an earlier period of the disease recognise the necessity of placing themselves under restraint. We feel convinced that the treatment of the disease would be rendered easier, and result in permanent cure in a much larger number of cases, if they were only taken in good time. We have had no difficulty in securing proper discipline, and a ready observance of the rules of the Home, without our

having to put any of the penal clauses of the Act in force."

TWICKENHAM. — "The work of the past year has been most encouraging. Letters from old patients or their friends have proved quite sufficient, amidst much to discourage, to determine the carrying on with renewed energy this 'work of faith and labour of love.'"

I have the honour to be, Sir,
Your most obedient Servant,
(Signed) H. W. HOFFMAN.

The Rt. Hon. H. Matthews, Q.C., M.P.

The SCHEDULE appended to the report gives the following particulars:—

Colman Hill House, near Hales Owen, Worcestershire.—Licensed for twenty-one female patients; five admitted and nine discharged during the year; remaining on the 31st December, 1887, two.

Dalrymple House, Rickmansworth, Hertfordshire.—Licensed for twenty male patients; fourteen admitted and fifteen discharged during the year; remaining on the 31st December, 1887, eleven.

High Shot House, Twickenham, Middlesex.—Licensed for ten male patients; thirteen admitted and fourteen discharged during the year; remaining on the 31st December, 1887, eight.

Montague House, Brook Green, London, W.—Licensed for ten female patients; three admitted during the year; three remaining on the 31st December, 1887.

Old Park Hall, Walsall, Staffordshire.—Licensed for eleven male and two female patients; fourteen admitted and nine discharged during the year; remaining on the 31st December, 1887, eleven.

Tower House, Westgate-on-Sea, Kent.—Licensed for fourteen male and six female patients; seventeen admitted and twenty-one discharged during the year; remaining on the 31st December, 1887, seven.

Amesbury House, Amesbury, Wilts.—Licensed on October 19, 1887, for one female and two male patients; none admitted up till December 31st, 1887.

JELLY-FISH AFFECTED BY ALCOHOL.

AMONGST the many interesting papers in the new number of the *Asclepiad* (Longmans & Co.) there is one on the fresh-water jelly-fish, or medusa, in which Dr. Richardson shows by a striking illustration how those aquatic animals are affected by chloroform, alcohol, ether, and similar substances. The article gives a lucid description of the curious characteristics of the fresh-water medusæ, and of the method of research employed by Dr. Richardson. The first observations were made with chloroform, which proved speedily fatal, even in such minute proportions as one grain of chloroform in 4,000 grains of water.

"The inquiry was next carried out in regard to the action of alcohol on the medusæ. The same rules precisely were followed. The tube holding 1,000 grains of tank-water at 80 deg. Fahr. was charged with one grain of absolute ethylic alcohol. When the diffusion of the alcohol through the water was complete, a medusa was placed in it and observed side by side with another medusa in the neutral tube. The action of the alcohol was very rapid and very decisive. Within two minutes the movements of the animal, which were counted at seventy-four in the minute, were entirely stopped, and it was beginning to sink to the bottom of the jar much shrunken in form. At the end of five minutes it lay at the bottom of the tube a mere pearly speck of matter, while its fellow in the neutral tube was moving about quite unaffected. Removed carefully from the alcoholised water, the shrunken medusa looked like a little pearl with light fluffy tentacles expanding from it. It was put into plain tank water warmed to 80 deg. Fahr., and was left there for twenty-four hours; but it showed no sign whatever of resuscitation.

"Another alcoholic solution was made, in which the proportion was one grain of alcohol to 2,000 of water. Into this solution another active medusa was placed. It remained for four minutes swimming about lustily,

and but little affected. It then began to move with less freedom, and at the end of another minute sank to the floor of the jar shrunken and motionless. It was taken out at once and placed in fresh water, or rather tank-water, at the same temperature (80 deg. Fahr.), but it showed no sign of recovery, and shrank, like the former, into a pearly mass with soft, fluffy margins.

"A third solution was made, in which the alcohol was in the proportion of one part in 4,000 of tank water. A medusa was put into this solution, with the same precautions as in the preceding cases. In five minutes the motion commenced to cease, and the animal sank into the lower part of the tube, where it collapsed, lost its transparency, and assumed more slowly, but quite as decidedly, the pearly semi-solid state.

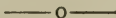
"A fourth observation with alcohol was conducted as follows:—A solution of alcohol was formed in the proportion of one part of alcohol in 10,000 parts of the tank water, at 80 deg. Fahr. Into this solution a medusa was put in the same way precisely as in the other experiments. The animal was watched for an hour, but without the indication of the slightest change in its motion or condition. To the water a fresh charge of alcohol was now added, so as to ensure a proportion of one part in 5,000 of water. Again there was no appreciable effect. At the close of two hours more the alcohol was increased to the proportion of one part of 2,000 of water. To my surprise, the animal remained still unaffected, although the same solution was fatal to other specimens plunged directly into it. After a lapse of over three hours more the strength of the solution was increased to one part in the 1,000. Again for a long time there was no effect; but in the course of an hour the movements became slower; they also gradually grew weaker, and by the end of four hours they ceased altogether, the structures undergoing

precisely the same fatal change as in the others which had died rapidly in the same strength of solution.

"These observations on the influence of alcohol show very decisive results. They indicate that alcohol destroys the motion and life of the medusa by the process of coagulating the colloidal tissues of the animal. Excessively soluble in water, the alcohol would diffuse through the watery animal tissues just as readily as it would through water itself, and it would seem that in the proportion of one part in the 1,000 coagulation is the certain effect. But here comes the curious fact that if the strength of the solution be gradually increased from a quantity that is not poisonous, a tolerance is set up which is a source of temporary safety at least. Whether this tolerance is due to an action on the nervous matter or to some change of action on the colloidal material, by

which the process of coagulation is rendered slower, it is not easy to say. I infer, however, that the latter view is most likely to be the correct one, since the fact observed tallies with those which I and others have recorded on the coagulation of the blood; namely, that some solutions of one substance which will produce instant coagulation will, in reduced strengths, retard or even prevent the process of coagulation.

"I have no doubt that alcohol stops the vital movements of the medusæ by its action on the colloidal matter of which their delicate organism is composed. That it sometimes acts on man in a similar manner, leading to change of structure in the delicate membranous expanses, is a view which, as is well known, I have long ago expressed, and which this research singularly and unexpectedly confirms."



THE BRITISH MEDICAL ASSOCIATION.

REPORT OF INEBRIATES LEGISLATION COMMITTEE.

YOUR Committee are glad to be in a position to report to the Council the enactment of permanent legislation which has taken the place of the Habitual Drunkards Act, 1879, enacted for ten years only.

As the expiry of the Act was approaching it was considered judicious by the Association, in concert with friendly members of the Legislature and with the Society for the Study of Inebriety, to endeavour to obtain amended and more stable legislation. Accordingly, the Habitual Drunkards Act Amendment Bill was introduced into the House of Commons last session by Dr. Cameron, Sir Walter Foster, Sir Trevor Lawrence, and Sir Lyon Playfair. The Bill, however, was blocked and did not reach a second reading.

Your Chairman, as instructed at last annual meeting, acting under the authority of the Council, requested on the part of the Committee an interview with the Home Secretary. A cor-

respondence ensued, in the course of which the views of the Association were, at the request of the right honourable gentleman, fully laid before him, and he agreed to support the Bill with certain modifications. Notwithstanding this governmental assent, the second reading was opposed by one member, which rendered a new Parliamentary departure expedient. Accordingly the Bill was withdrawn and a new Bill was introduced embodying the modifications stated by Mr. Matthews.

Bill No. 2, which has passed both Houses, having been taken charge of in the Upper House by the Earl of Aberdeen, as it now stands provides for a permanent Act to replace the original temporary measure. A clause provides for the appointment of a deputy to the licensee during temporary absence for the space of not more than six weeks, subject to the approval of the Inspector of Retreats and the local authority which grants the

license. Another clause will remove the existing restriction of the two attesting justices to the county in which the attestation of the applicant's signature to a request for admission into a retreat is made. A concluding clause provides for the original and amending Acts being designated *The Inebriates Act*.

Your Committee did all in their power to secure legislative provision for various other amendments advocated by the Association, such as attestation by one justice only; powers for compulsory admission in certain cases, for the establishment at the public charge of retreats for the poor, and for detention for purposes of cure of habitually drunken indoor paupers; the control over remittances to patients in residence; the taking back direct to a retreat any patient who may have escaped therefrom; and the inclusion of other forms of inebriety beside the alcoholic. But it was found that none of these objects could at present be attained, and that to have insisted on any of them would have taken away every chance of permanent legislation. Your Committee, therefore, in concert with sympathetic legislators and with the Society for the Study of Inebriety, resolved to accept the conditions laid down by the Home Secretary, as the assent of the Government would probably secure the passing of the Bill, a very difficult undertaking in the present state of political affairs.

The amendment by which the restriction of the attesting justices to the county in which the attestation of applicant's signature is made will be of considerable value in the working of the Act, and will render it easier for inebriates to apply for admission under the Act.

The alteration of title from "*Habitual Drunkards*" to "*Inebriates*" Act, will also have a favourable influence on the number of applications, and on the result of treatment. Many inebriates have a very strong and natural objection to declare themselves habitual drunkards, but are willing to confess themselves inebriates. Besides, all inebriates are not habitual. A large proportion are periodical. The

new title is taken from the *Victoria Act of 1872*.

The clause relative to the appointment of a deputy in the temporary absence of the licensee will remedy an oversight and be serviceable, inasmuch as it will ensure the presence of a legally competent authority for the enforcement of discipline, in such circumstances. Under the existing régime the absence of the licensee has at times been taken advantage of by some of the patients who knew that no one in the retreat was clothed with legal authority, and who presumed on this to defy the officials actually on the premises.

The most important provision, however, undoubtedly is the enactment of a permanent measure. Now that we have a permanent Act, the energies which hitherto have been concentrated on the agitation to secure this permanence can henceforth be devoted to agitation for improved legislation. Your Committee venture to express a hope that the Association will redouble its zeal in bringing pressure to bear upon the Parliament and the Government to complete the legislative provision for the inebriate on the lines of accomplished legislation in some of our colonies and in some of the United States of America, especially in the providing of compulsory admission to a retreat, in the establishment of special homes for the care of the poor, in the detention for a time under treatment of pauper inebriates, in greater power over moneys sent to resident patients, in the reconveyance (without an appearance before a justice) of an escaped patient, and in the extension of the provisions of the Act to embrace inebriety in opium, chloral, and other narcotics.

Your Committee have noted with pleasure the marked impetus which has been given, during the past year, to the movement on behalf of the inebriate by the Colonial and International Congress on Inebriety, by the papers read to the International Medical Congress in Washington, and by special meetings of the Medico-Legal Society of New York.

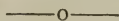
The demand for legislation for the

treatment of the diseased inebriate in this country originated with the British Medical Association. As in the United States and our own Colonies, this has practically been a medical movement; and it is earnestly to be desired that the Association will spare no effort to carry to a final and triumphant issue that call for adequate legislative provision for the treatment of inebriates which their own diseased condition, the sufferings of their families, and the public welfare so imperatively demand.

In future the Committee will be entitled "The Inebriates Legislation Committee." The Committee recommend their reappointment as follows:—The President and President Elect,

ex-officio; Dr. T. Bridgwater, President of Council; Dr. Norman Kerr; D. B. Balding, Esq.; H. Branthwaite, Esq.; Dr. C. Cameron, M.P.; Dr. A. Carpenter, J.P.; Dr. G. B. Clark, M.P.; Dr. C. R. Drysdale; Dr. J. W. Eastwood; Dr. R. Farquharson, M.P.; Sir W. Foster, M.D., M.P.; W. C. Garman, Esq.; Dr. J. Hill Gibson; Dr. A. Grant; Mr. F. J. Gray; Dr. C. J. Hare; R. H. B. Nicholson, Esq.; Surgeon-Major G. K. Poole, M.D.; J. Prankerd, Esq.; Dr. Pringle; Fleet-Surgeon G. Robertson; Dr. G. Danford Thomas, Coroner; Dr. H. W. Williams. Dr. E. Hart Vinen; and H. R. Ker, Esq.; Honorary Secretaries.

NORMAN KERR, M.D., *Chairman*.



Society for the Study of Inebriety.



THE SUMMER GENERAL MEETING.

A GENERAL meeting of the Society was held in the rooms of the Medical Society of London, on Tuesday, 3rd July, the President (Dr. Norman Kerr) in the chair.

The PRESIDENT called attention to the recent deaths of Drs. Murray McCulloch, of Dumfries, and J. Muir Howie, of Liverpool. With the former he had been acquainted for more than thirty years, and he had never known any person who had the interests of the inebriate more deeply at heart. Dr. McCulloch had been a consistent and unflinching temperance reformer, and had allowed no professional or social difficulties to interfere with uncompromising advocacy of the principles so near his heart. Dr. Muir Howie, though cut off in the prime of life, had succeeded in exerting an important influence on the temperance and morals of the great commercial city of Liverpool. He had attended their meetings, though residing so far off, having on one occasion come that distance to read a paper, which was distinguished for its lucidity and com-

prehensive grasp of the disease of inebriety. While he (the president) deeply mourned the loss of two personal friends, he rejoiced that both their deceased brothers had left their impress on temperance literature. He recollected as if it were yesterday, Dr. McCulloch's lecture to the Glasgow University on Temperance, somewhere about 1860, a lecture which has been widely circulated over the world. All honour to these heroes who had fallen in the fight.

Surgeon-Major G. K. POOLE, M.D., read an able paper on "Is Inebriety Curable?" He began by deploring the present apathy on this serious subject, which was evidenced by the common belief that inebriety was but a vice and incurable, and that the best way to deal with the confirmed drunkard was to start him on a voyage in a leaky ship. Happily the medical profession, backed by the religious and philanthropic community, were awakening to the fact that another and a better course lay open to us, in the treatment of disease, with a view to cure.

The study of this important topic was the mission of this society. Delirium tremens, alcoholism, and other effects of drunkenness, were confounded with inebriety in medical works; but, fortunately, a recent work of Dr. Kerr on "Inebriety" had placed the subject on a sound and scientific basis. Inebriety was clearly a diseased condition, "a constitutional disease of the higher nerve centres." Yielding to temptation and the lack of self-denial were a common feature. Religious influences were of priceless value, both in prevention and cure, though therapeutic care was also often needed. Dr. Poole quoted the excellent results effected at the Dalrymple and other Homes for Inebriates, and hoped that, to collect reliable statistics, the forms given in Dr. Kerr's book would be generally adopted. Fuller records were needed to warrant sound general conclusions. We found that nearly 30 per cent. were cured, and only those who had shown a desire for cure; that the earlier the treatment the greater hope of cure; that only those cases are complete which have been treated on sound scientific principles, based upon religious influences; that Homes claiming from 80 to 90 per cent. of cures are valueless to scientific inquirers. A great duty lay before them, and there was everything to encourage them in their great work.

Mr. F. J. GRAY, of Old Park Hall Retreat, Walsall, narrated cases of patients who had been under his treatment, who were now doing well, and were firm abstainers. The great defect was that patients were not allowed to remain long enough under treat-

ment. Long seclusion from external influences was essential in many cases. Unfortunately inebriates often think that they are all right in three months—a vain and delusive mistake.

Mr. JOSEPH SMITH was struck with the fact that medical treatises made no mention of inebriety, though they dwell minutely on other neurotic diseases. The President had now given them a standard work of reference on this affection, which was undoubtedly a neurotic disease. Inebriety was as curable as other diseases when taken in time. A term of twelve months was about the shortest that was required.

Dr. JABEZ HOGG knew and rejoiced to know that inebriety was now being treated scientifically as a disease. He narrated cases which had been under treatment at a well known home, and were now conducting their business and affairs in their right mind. The Government in India were greatly at fault in increasing temptations to inebriate indulgence.

Dr. H. W. WILLIAMS said that religious influences should have a prominent place in curative treatment.

Dr. HENRY SMITH was of opinion, that a mental conviction of the uselessness of alcohol was an important point in the cure of this disease.

Mrs. BOUSFIELD referred to the experience of the British Woman's Home for Female Inebriates.

The PRESIDENT conveyed the thanks of the meeting to Dr. Poole for his thoughtful and suggestive paper, and referred to the immediate prospect of permanent legislation in the interests of the inebriates in the United Kingdom.

THE INEBRIATES ACT, 1888.

THE Royal Assent to permanent legislation for inebriates having been given on Tuesday, 24th July, was the occasion of a reception by the President and Council of the Society for the Study of Inebriety to the Inebriates' Legislation Committee of the British Medical Association on the following

Friday, in the rooms of the Medical Society of London. Among those present were Lord and Lady Denman, Sir Charles Tupper, Sir Tindal Robertson, M.P., Sir Walter Foster, M.P., Mr. P. Maclagan, M.P., Dr. Clark, M.P., Dr. Bridgewater, president of council, British Medical Association;

Dr. G. H. Savage, Dr. Hart Vinen, Dr. Arthur Jamieson, Dr. Greenly, Surgeon-Majors Poole and Pringle, Drs. Jabez Hogg, F. J. Gray, Forsyth, Bousfield, Wynter Blyth, H. W. Williams, Wickham, Barnes, Alderson, Walter Pearce, the Rev. Dr. Carr, the Very Rev. Canon Bagot, Dr. Kingsbury, Captain Sheffield, Dr. Longhurst, Mr. Holthouse, Dr. Kate Mitchell, Dr. May Hall, Dr. Chant, the Rev. William Allan, Mr. Stephen Bourne, Mr. J. W. Leng, Mr. J. H. Raper, Mr. John Hilton, &c.

After a service of refreshments, the president, Dr. Norman Kerr, took the chair.

The CHAIRMAN said they were met on a very auspicious occasion, namely, to commemorate and to congratulate themselves and their friends throughout the world upon the fact that after a quarter of a century of hard work in and out of Parliament, they had been able to achieve permanent legislation, but on limited lines. The great difficulty had been hitherto that owing to a number of complicated things in the Houses of Parliament they had had to work for a large number of years, but they had at last succeeded in getting only a very small bill. It was in 1839 when their venerable friend, Dr. Grindrod, first proposed that drunkards who could not control themselves and refrain from drinking, should be secluded for a time in the hope that they might be cured. In 1857, the Scottish Lunacy Commission issued a report in favour of that course being adopted. The late Dr. Dalrymple, who had done such good work in this cause, in 1870 introduced his first bill into the House of Commons. For various reasons that bill did not go far. Dr. Dalrymple afterwards went to America and examined into the working of inebriate homes in that country, and the result was that a Royal Commission sat here, and evidence was taken of the work that had been done on the other side of the water, and the result was that the Parliamentary Commission recommended that there should be legislation on the lines of the Habitual Drunkards Bill. Dr. Dalrymple brought forward his

second bill in 1872, but, unhappily, he was suddenly taken ill and died, and nothing more was done for some years. He, however, left his memory green in the heart of his widow, who had been a great friend to them ever since. In 1875 it was seen that something must be done in order to create an agitation which might take a long time before any practical result could ensue, and eventually the Habitual Drunkards Committee of the British Medical Association was established. The work was carried on for some years, and then their late friend, Mr. Stephen Alford, established a society for the promotion of legislation for the control and cure of the habitual drunkard. That society drew the first Habitual Drunkards' Bill in 1879, which bill Dr. Cameron brought into the House of Commons, and carried through successfully. During all this period, though the demands of the first bill were very wide and extensive, it was found absolutely necessary, in order to make progress through Parliament, that they should be content with a great deal less as a beginning. Thus it was that the bill of 1879 was not nearly so drastic as Dr. Dalrymple's original bill. Dr. Kerr then referred to the new Act, which is described in his report to the British Medical Association given elsewhere; and said they owed many thanks to the present Home Secretary and the Government for their most efficient aid in this matter, because without their aid and hearty co-operation it would not have been possible for them to have had the slightest chance of passing the bill this year.

Dr. A. JAMIESON proposed the first resolution as follows:—"That this meeting desires to cordially thank the Houses of Parliament and the members in charge of the Habitual Drunkards Act Amendment Bill (the Earl of Aberdeen, Dr. Cameron, Sir Walter Foster, Sir Trevor Lawrence, and Sir Lyon Playfair), for the enactment of permanent legislation in the interests of inebriates." Everyone, he was sure, would be much indebted to the members of Parliament for the uphill struggle they had had in securing the Inebriates

Bill. Of all the miserable failures in trying to make a man sober was to fine him five shillings and costs. He hoped they would all do their best to endeavour to extend the boon they had now got to the poor as well as to the rich. He was extremely glad that this Act had been passed, as it seemed the first introduction into this country's jurisprudence of a spirit of real genuine charity, and not counting disease a crime.

Dr. JABEZ HOGG seconded the resolution, and said that all present were well acquainted with the movement that was being carried on, and the time that had been bestowed upon it by the president in securing that which they were celebrating that afternoon. Considering the difficulty of getting a private bill of any sort through Parliament, they were very much indebted to the Earl of Aberdeen and the noblemen and gentlemen who had promoted the bill in the two Houses of Parliament, and especially were they grateful for what had been done in the House of Commons to frustrate the action which was taken to oppose the action of this committee. They were much indebted to the medical press for the assistance they had given to the movement, in not only keeping their friends well informed of what had been done, but they had done all they could to promote the passing of the bill. They could not but feel that they were now on the right road to getting a further bill passed to meet the wants that the president had pointed out, and having got in the thin end of the wedge there was no doubt whatever that in a few more years they would get a very much better and more useful Act.

The resolution was then put and carried unanimously.

Lord DENMAN, in replying for the House of Lords, said it would give him very great pleasure to convey to the Earl of Aberdeen the unanimous thanks of that meeting for his services in this cause. It was a very useful cause, and the only defect appeared

to him to be was that those who were in the process of cure could not be detained in the place which had rescued them from intolerable slavery. He wished that persons, according to their means, would be allowed to deposit a large sum of money on entrance to a home, and that that should be forfeited if they went away before the time considered necessary for their relief. If he saw Dr. Cameron he should be proud to tell him of the sentiments of that meeting. He fully concurred in the thanks they had passed to the medical and general press and to the Medical Association.

Dr. G. B. CLARK, M.P., replied on behalf of the House of Commons.

Dr. E. HART VINEN then moved:—"That this meeting heartily thanks the Right Hon. Henry Matthews, Home Secretary, and the Government, for their valuable aid in the enactment of permanent legislation in the interests of inebriates; the British Medical Association and the press (general and medical) for aid and co-operation in agitation for such legislation."

Mr. W. JENNINGS DEMOREST (New York) seconded the motion, which was carried unanimously.

Mr. J. H. RAPER then moved the third resolution, as follows:—"That this meeting, while grateful for the enactment of permanent legislation, cannot but regard the Inebriates Legislation Acts as imperfect and incomplete; and strongly urges the need of such amendments as may be necessary to render admission to a retreat as simple and easy as possible, to empower the proper authority to grant compulsory admission, in well-defined cases, of inebriates unwilling to apply voluntarily, and to provide medical care and treatment for poor and destitute inebriates."

Mr. J. HILTON seconded the resolution, which was agreed to unanimously.

The proceedings closed with a vote of thanks to the president.

British Medical Temperance Association.

President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION. Not less than Five Shillings.

ENGLISH BRANCH.

Honorary Secretary.

Dr. J. J. RIDGE, Enfield, Middlesex.

NEW MEMBER.

Dr. SKENE, Cardiff.

NEW ASSOCIATE.

Mr. C. S. FARREY, Guy's.

SCOTTISH BRANCH.

President.

Professor McKENDRICK.

Honorary Secretary and Treasurer.

Dr. P. A. YOUNG, 25, Manor Place, Edinburgh.

NEW MEMBERS.

Dr. MACDONALD, Brora.

Dr. MUIR, Glasgow.

IRISH BRANCH (CENTRAL).

President.

Deputy Surgeon-General F. L. G. GUNN.

Honorary Secretary and Treasurer.

Dr. MACDOWEL COSGRAVE, 5, Gardiner's Place, Dublin

NORTH OF IRELAND BRANCH.

President.—Brigade Surgeon F. E. M'FARLAND.

Honorary Secretary and Treasurer.

Dr. W. G. MACKENZIE, 92, Richmond Terrace, Belfast.

NOTICES.

Members are requested to inform the Hon. Secretaries of any medical abstainers not yet enrolled in the Association, and to use their influence, if possible, in securing their adhesion.

The Editor of the *Medical Temperance Journal* will always be glad of short original communications of a suitable character.

Members whose subscriptions are two years in arrear are not entitled to receive the *Journal*, but if the *Journal* fails to reach those who are entitled to it, they are requested to communicate at once with the Hon. Secretary.

Enfield, September, 1888.

J. J. RIDGE, *Hon. Sec.*

Notes and Extracts.

A TEETOTAL ATHLETE.—James Albert, who recently beat the record of 610 miles made by Fitzgerald, says:—"I attribute all my success in the race in which I beat the record of 610 miles made by Fitzgerald to the fact that when I train I am a total abstainer, and do not smoke or chew."

A NEW RUSSIAN WORK ON THE DRINK DISEASE.—The *Quarterly Journal of Inebriety* for July notices a work on "The Drink Disease; its Cause and Cure," by Dr. Kawebewsky, editor of "Annals of Psychology and Mental Medicine" at the University of Kharkoff, which is described as "the first book which has appeared in the Russian language in which the disease of inebriety is recognised, and its treatment by physical means in hospitals is urged."

METHYLAL INJECTIONS IN DELIRIUM TREMENS.—Professor Kraft-Ebing warmly recommends subcutaneous injection of methylal in delirium tremens. Although large doses are required by the mouth to procure sleep—often as much as 4 grammes—administered subcutaneously 0.1 gramme or $1\frac{1}{2}$ grains is sufficient, although two and often six hours are required to bring about the desired result. Earlier investigators, such as Mairé and others, spoke of it as a reliable and not disagreeable hypnotic, but they often resorted to doses of six to eight grammes. If Kraft-Ebing's results of restfulness and sleep after minute doses given subcutaneously prove the rule, it will add materially to the value of the drug.—*Medical Press*, September 5.

DEATHS FROM ALCOHOLIC EXCESS IN LONDON.—Dr. W. Wynn Westcott, deputy coroner for Central Middlesex, has communicated to the *Lancet* (July 21), an analysis of 1,220 consecutive inquests held by him in London. Of these, 470 were infants, children, and persons under sixteen, who may presumably be removed from the list of deaths from alcoholic ex-

cess. "Of the remaining 750 deaths, no less than 143 are recorded as being the result of chronic alcoholic disease, acute alcoholism, delirium tremens, suicide caused by drink, or of accidental death while drunk, or of accidents arising because of incapability when intoxicated; that is one death in every 5.24. Of these 143 cases, eighty-six were men and fifty-seven women."

PATHOLOGY OF CHRONIC ALCOHOLISM.—The discussion of the morbid anatomy and pathology of chronic alcoholism, at the Pathological Society of London, will, as has already been announced, be opened by Dr. Payne. A circular has been issued proposing that the subject should be discussed and specimens exhibited under the following heads:—1. Effects of Alcohol on the Digestive System. (a) Morbid changes in the tongue. (b) Morbid changes in the stomach. (Microscopical or other specimens illustrating the changes of these parts, attributed to alcohol, would be valuable.) (c) Morbid changes in the liver. Specimens illustrating any important or unusual features in alcoholic cirrhosis or degeneration.) 2. Effects of Alcohol on the Urinary System. Morbid changes in the kidney. (Specimens illustrating the effect of alcohol in producing Bright's disease, a question about which wide differences of opinion exist, would be valuable.) 3. Effects of Alcohol on the Nervous System. (a) Morbid changes in brain. (b) Morbid changes in spinal cord. (c) Morbid changes in peripheral nerves, including nerve endings and muscles. 4. Effects of Alcohol on the Respiratory Organs. (Relations of alcoholism to phthisis, chronic bronchitis, or other diseases.) 5. Effects of Alcohol on the Skin or any other Organs. Members intending to contribute specimens or to take part in the debate are requested to communicate with Dr. Coupland before October 15. —*British Medical Journal*.

THE
MEDICAL TEMPERANCE JOURNAL,
January, 1889.

Original Contributions.

REPORT ON THE CONSUMPTION OF ALCOHOL
IN FRANCE.*

Presented by ROBERT PRINGLE, M.D., Surgeon-Major;
H. A. W. CORYN, *and* CHARLES R. DRYSDALE, M.D.

HAVING been requested by the respected President of the British Medical Temperance Association, Dr. Benjamin Ward Richardson, to study the report presented to the French Senate on February 7, 1887, by a Commission appointed by that body in 1886, we beg to give the following account of this most important document. The Commission was composed of several distinguished senators, among whom were MM. Claude (Vosges), Theophile Roussel, and Dietz Monnin, and the report issued by them is very voluminous and important. These gentlemen remark (page 3) that, "It has often been alleged that the importance of the mental and moral ravages of alcoholism require no longer to be insisted on. Your Commission is not of this opinion, and believes, on the contrary, that the time has arrived to show how profound the evils are, in order that Parliament and the country, being enlightened, may take energetic measures, and wage a courageous crusade capable of arresting the progress of the invading plague."

In 1873, thanks to the energy of M. Theophile Roussel, the National Assembly passed a law tending to repress drunkenness. This law has been of great service, and among its other effects has been the creation of several temperance societies throughout France. Of recent years, the diseases of the vine, viz., the

* Read at a meeting of the British Medical Temperance Association, on Friday, November 30, 1888.

oidium, followed by the phylloxera, have caused quite a revolution in the drinking customs of France. Spirits have taken the place of wine; and what the Commission most deplore is, that the spirit now fabricated in France is no longer distilled from wine, but from other substances such as grain, potatoes, cider, and plums. The alcohols furnished by these substances are stated by the Commission to contain dangerous poisons, which have of late years been productive of many diseases, such as insanity, affections of the nerves, accidental deaths, suicide, and criminality. The Commission also complains greatly of the fact that an immense amount of spirit is distilled by the peasants all throughout France, which spirit pays no tax, and which, being most carelessly prepared, is full of dangerous poison.

Duty on alcohol in France.—According to the report, spirits were not used by the public until the seventeenth century in France, and they only paid duty in 1674. The French Revolution swept away all duties upon strong drinks, but these were replaced in 1804, and in 1816 they received the present name of “indirect contributions.” The license duty in France is by no means high. The keeper of a public-house, in communes of less than 4,000 inhabitants, pays a license duty of fifteen francs per annum, and in large cities of more than 50,000 inhabitants, with the exception of Paris, fifty francs. The duty upon alcohol is as follows:—156 francs 25 centimes per hectolitre of pure alcohol contained in brandy, and 218 francs 75 centimes per hectolitre of pure alcohol contained in liqueurs, or bottled spirits, or in absinthe. The duties are now much higher than they used to be in France, which the Commission seems to think is likely to lead to fraud. Another duty on spirituous liqueurs is levied by the various communes, and varies according to the size of the towns.

Laws as to the fabrication of alcohol.—A law of 15th October, 1881, is still in force, and regulates the conduct of distilleries of wine, cider, perry, and other kinds of spirit. At the present moment the permanent surveillance of manufactories of these substances is in the hands of employés, who reside in each distillery, and see that the processes of manufacture enjoined by law are carried out.

The chemical and hygienic properties of alcohol.—The Commission, in a chapter consecrated to alcoholism, page 37 *et seq.*, mentions that it has studied the remarkable works of Isidor Pierre, Dumas, Rabuteau, Claude Bernard, Hoeck, Jules Rochard, Riche, and others, and also the reports of Dr. Brouardel. Evidence was also given before it by M. Berthelot, M. Scheurer Kestner, M. Bardi, and M. Charles Girard. According to these distinguished advisers, the most common adulterations of ethylic alcohol, C_2H_6O , are aldehyde, C_2H_4O , acetic ether, propylic alco-

hol, C_3H_8O ; butylic alcohol, $C_4H_{10}O$; amylic alcohol $C_5H_{12}O$, and some peculiar essential oils. The action of the superior alcohols, as they are called, is deplorably injurious to the organs of respiration. M. Bardi also mentions that ethylic alcohol in France is very much adulterated with methylene, CH_4O , but, according to MM. Dujardin Beaumetz and Audigé, all alcohols have toxic properties. Thus they found that eight grammes of ethylic alcohol per kilogramme of weight injected sub-cutaneously in animals produced death, whilst one gramme of acetic aldehyde, four grammes of acetic ether, four grammes of propylic alcohol, two grammes of butylic alcohol, and about two grammes of amylic alcohol produced the same fatal effect. Methyl alcohol required seven grammes, acetone five grammes, and glycerine $C_3H_8O_3$ eight grammes.

Poisonous effects.—The phenomena of acute intoxication caused by the different alcohols are divided by these authors into three periods—the first, of excitation; the second, of resolution; the third, of collapse. In all cases when poisoning takes place, the temperature is much lowered. These conclusions of MM. Dujardin and Audigé are in accord with what is observed in various countries as to the diseases produced by the spirituous liquors made use of in each. Thus in Sweden, where spirits are distilled from potatoes alone, the diseases produced by alcohol are very grave, and the Commission hold that that is also true in other northern countries where barley, beetroot, &c., are used for the distillation of spirits. Dr. Lunier has particularly insisted that the chief ravages of alcoholism are to be found in those parts of France where spirits are distilled from other substances, and not from wine. A considerable portion of this chapter is consecrated to the evidence of Dr. Lancereaux, and whole passages are quoted textually from his work presented to the Temperance Society of Paris, and which treats of the symptoms of alcoholic intoxication, of the lesions which it causes, and on the hereditary affections which it engenders. After a description of acute alcoholic poisoning, in which Dr. Lancereaux gives an account of the several varieties of this state, such as convulsive and apoplectic drunkenness, he passes on to a detailed description of chronic alcoholism. According to Dr. Lancereaux, not only does this common evil attack the individual who is addicted to strong drinks; it also attacks his children. The patient begins to exhibit several symptoms of disordered innervation, such as hypersensitiveness to heat or cold, disturbance of vision, and buzzing in the ears. The moral sense is frequently rapidly damaged. The drinker becomes impatient, violent, quarrelsome, and sad. He suffers much from insomnia. The mental faculties are also greatly affected, and this may go on to complete abolition of the

cerebral functions. Suicide is frequently caused by drinking, as is known by the statistics in England, Germany, Russia, and France. With regard to the muscular system—the trembling of drinkers is well known. This trembling may involve the hands, arms, feet, legs, the lips, and even the head. The disease of delirium tremens is sketched by a master hand. Dr. Lancereaux thus describes the physiognomy of the drinker. This is, he says, quite special, and so characteristic that in most cases an experienced eye can recognise the most secret habits. It is specially when he speaks that the drinker betrays himself; for then the common elevator of the nostril of the upper lip, the zygomatic muscles, and even the orbicular muscle of the lips, are seen to tremble. He then describes the congestion of the vessels of the nostrils, and of the cheeks, which gives the face a lurid appearance. With regard to the lesions caused by alcohol, Dr. Lancereaux divides them into those which affect the connective tissue of the organs, causing adhesive inflammations, and those which are the effect of the diminution of the exhalation of carbonic acid, and the excretion of urea, and which are expressed by fatty degeneration of the organs. The first of these alterations is noticed in all the organs traversed by the alcohol, from the stomach (where it is absorbed) to the lungs (where it is partly eliminated). The second is seen in fatty degeneration of the muscles of the heart, and other parts of the muscular system. This latter effect of alcohol produces early senility. The drunkard has many symptoms seen in the aged, such as trembling, enfeeblement of the muscular and procreative functions, and a tendency towards fatality in cases of pneumonia, bronchitis, &c. According to Lancereaux, the children of drunkards are exposed to severe diseases, such as excessive nervousness, hysteria, or convulsions. He contends that the children of drunkards are apt to become drunkards themselves, and alleges that numerous facts observed by him in the hospitals of Paris show that this is a common cause of drunkenness. Dr. Morel, of the Asile de Saint Yon, speaks of several families which had become extinct from hereditary alcoholism. Epilepsy and infantile paralysis are said to be due to this cause. According to Lancereaux, sterility is often caused by drunkenness, and tuberculosis is very frequently induced by drinking. He contends that tubercular meningitis is very prevalent among the children of drunkards. It is by such a combination that the islands of the Pacific have, he says, in some instances, been nearly depopulated. It would appear that in Normandy, where a large quantity of alcohol is distilled from cider, perry, and beetroot, the mortality of children is exceedingly high. Dr. Lancereaux makes the following recommendation:—The consumption of none but the best liquors should be permitted

(in this, he contends, lies the prevention of alcoholism); a serious inspection of the manufacture and sale of alcoholic drinks, joined to severe legal penalties against falsification, and a diminution of the number of public-houses.

Production of alcohol in France.—For a long time the only spirit used in France was that obtained from wine. According to M. Girard, the best brandy is procured from white grapes. All such alcohols are colourless when manufactured, but become coloured by the cask in which they are kept. Before the disease of the vines, the quantity of alcohol distilled, from 1840 to 1850, was 815,000 hectolitres. In 1876, 545,000 hectolitres were manufactured. In 1879, only 102,000 hectolitres. In 1885, out of a total manufacture of 1,864,000 hectolitres only 23,000 hectolitres of spirits were distilled from wine. The rest of the spirit consumed is derived from apples, pears, cherries, plums, barley, wheat, oats, and maize. Considerable quantities, too, are distilled from molasses.

Consumption of alcohol in France.—The use of spirits in France has only been known since the end of the seventeenth century. In 1830, 1·12 litre per head of the inhabitants was consumed. In 1885, the consumption was 3·85 litres per head. The duty, which was 156 francs 25 centimes per hectolitre, was levied on 1,440,000 hectolitres, and produced 238,000,000 francs, say £10,000,000 sterling. Only about one-eighth of the population in France are supposed to consume this alcohol, so that the quantity consumed per head must be eight times the figure above given.

Private Distillers.—Owing to a law which came into force in 1875, all proprietors and farmers who distil either wines, ciders, or spirits, from cherries or plums, exclusively their own produce, are exempted from all taxation. The consequence of this has been that an immense amount of spirits has been distilled in this way in France. The Commission estimate that in 1884 the total production of spirits from these sources was 1,934,000 hectolitres. M. Luzet believes that three-fourths of the total production of spirits in France are fraudulently produced.

Public-houses in France.—The number of public-houses per head of the population seems to have increased a good deal of late years. Thus in 1875 there was one public-house to every 109 inhabitants. This had risen to one in 94, in 1885. It must be remembered, too, that in this figure, women and children are counted. So that in reality each public-house only has from thirty to forty customers. And this does not include the 30,000 Parisian public-houses. One of the admirable charts (No. 10) contained in this report shows at a glance the mean number of inhabitants frequenting each public-house. We find that in "Pas de Calais," and

in the "Seine Inferieure," in some cases there are only 62 inhabitants to each public-house. Whereas in the south of France there are districts where there are 210 persons to each public-house. The Commission believe that a certain proportion of the drinkers in France consume daily more than half a litre of impure spirits. According to their calculation 1,500,000 hectolitres of pure alcohol, corresponding to 4,000,000 hectolitres of ordinary spirits, sold at 4 francs, represent an annual expenditure of about £64,000,000 sterling, chiefly consumed by the poorer classes. The French Société de Temperance has expressed a desire that one public-house to every 200 persons is all that should be permitted. In England it appears that the license paid by public-house keepers varies from £4 10s. up to £60.

Public drunkenness.—In consequence of a Bill introduced by M. Theophile Roussel, in 1871, a law was passed in 1873, which had thirteen clauses directed against public drunkenness. The first clause punishes with a fine of five francs those found drunk in the streets. The second clause gives imprisonment, from six days to a month, and a fine, from sixteen to 300 francs, to any one who has, for the second time in a year, been convicted of drunkenness. By the third clause, a person who has been twice condemned loses his vote, and is no longer eligible as Member of Parliament or as juryman, nor is he allowed to carry arms for two years after his conviction. Article 4 punishes with a fine of five francs all public-house keepers who have supplied drink to persons already drunk, or under the age of sixteen. Article 7 punishes with imprisonment for six days, and a fine of sixteen to 300 francs, whoever has made a person under sixteen years drunk. Article 11 allows the police to take any one found drunk in any public place to the nearest police office at his own expense. The reports relative to the effects of this law have generally been favourable, but in the country parts there has been a difficulty in carrying out the law. The north of France has had by far the greatest proportional number of convictions for drunkenness. Thus the north-west contains 29 per cent. of the convictions, and the north contains 34 per cent., whereas the south contains 4 per cent., and the south-east 9 per cent. Another chart of France (No. 16) shows the number of convictions for crime from 1881 to 1885. This shows that the departments which consume the largest amount of spirits have also the greatest amount of crime.

Vital forces of man.—Under the heading of "Vital forces of Man," the Commission has drawn up a chart, according to which Normandy, which is one of the most drunken provinces in France, and which exhibits a frightful mortality among young children, is an example of the damage done by alcohol to the race. With regard to exemptions from conscription, these amounted in Seine

Inferieure to 6 per cent. in 1873, but in 1886 no less than 24 per cent. were exempted for different infirmities. In Ile et Vilaine in 1883 no less than 40 per cent. were exempt from the conscription for weakness. With regard to the number of fatal accidents caused by alcohol, these amounted in 1885 to 538 deaths. The spirit-drinking districts of the north and north-west of France showed 52 per cent. of all these deaths. The number of suicides seem to have risen very greatly since spirit-drinking became general. The alcoholic suicides seem to have been only 5·3 between 1836 and 1840, and 11 per cent. in 1885 for the whole of France; but in Manche no less than 35 per cent. of the suicides are attributed to drunkenness; in Haute-Saone 31 per cent.; and in some parts of Normandy from 20 to 30 per cent.

Insanity.—From 1835 up to 1876 statistics have existed as to the number of the insane in France. In 1876 these amounted to 83,000 in public asylums, and 40,000 at home, 80 per cent. of the latter of whom were idiots or *cretins*. From a table drawn up by the Commission, alcohol was the cause of insanity in 21·24 per cent. of the cases in the asile Prémontré; in 29·54 per cent. in St. Athanase (Finisterre); in 40·34 per cent. of the cases in Quatre-Mains (Seine Inferieure). Whereas in the asile of Pau only 1·9 per cent. cases of insanity were due to alcohol. It will thus be seen that the lunatic asylums containing the most alcoholic cases are found in the districts which consume the most spirits.

Alcohol in other countries.—The French Commission has also examined the amount of alcohol consumed in different countries, and the laws against drunkenness in each. In 1884 each inhabitant of Germany paid 1 franc 78 centimes duty upon alcohol, and the consumption per head was estimated at 8·25 litres of pure alcohol; in Baden-Baden, 3·77 litres; in Bavaria, 2·45 litres; in Wurtemberg, 2·50 litres; and in Alsace-Lorraine, 0·58 litres of pure alcohol were consumed per head. Potatoes, grains, flour, and starch are the substances used in Germany for the distillation of alcohol. Convictions for public drunkenness may lead to six weeks' imprisonment; and even to two years' residence in the house of correction with hard labour. Of 27,598 male prisoners examined by Dr. Baer, 12,141 were drunkards, of whom 6,546 were spirit drinkers. In Prussia, out of the number of alcoholic lunatics admitted into asylums, 15 per cent. were males, and 1 per cent. were females. The deaths caused by excessive drinking are estimated at 4 per cent. in Prussia. In England, the duty on pure spirits is 477 francs 19 centimes per hectolitre. The duty paid per head was 11 francs 98 centimes, and the consumption 2·49 litres of pure alcohol. The penalties against public drunkenness may amount to 50 francs, and a month of prison

with hard labour. 13 per cent. of the cases of insanity are attributed to alcohol. In Austro-Hungary the duty is 26 francs 75 centimes per hectolitre of pure alcohol, and the consumption about 3 litres per head. In Galicia, a drunkard may be prevented from visiting the public houses for a year. In Belgium, the duty was 74 francs 25 centimes per hectolitre of pure alcohol, and the consumption per head is 4.20 litres. The number of public-houses is excessively large, one public-house to forty-four inhabitants. In Denmark the duty is 26.80 francs per hectolitre; and the consumption is 8.85 litres of pure alcohol. The statistics relative to alcoholism in Denmark showed 30 per cent. of the paupers as having been drinkers, and 36 per cent. of the suicides. In Italy the duty on pure spirits is 150 francs per hectolitre; and the consumption per head is about one litre. In Holland the duty on pure alcohol is 252 francs per hectolitre, and the consumption per head 4.58 litres. The penalties of drunkenness are fines not exceeding 600 francs; imprisonment not exceeding five years for those who contribute to the drunkenness of others. In Russia, the duty on pure alcohol is 260 francs per hectolitre, and the consumption per head 3.32 litres. Public drinkers are liable to seven days' imprisonment and twenty-five roubles fine. In Finland, the duty on pure spirits is 92 francs per hectolitre, and the consumption is 2.60 litres per head. In Sweden the duty on pure spirits is 145 francs per hectolitre, and the consumption per head is 4.15 litres. In certain towns of Sweden, societies called "Bolag" are organised to monopolise the spirit traffic. One of these was founded in 1865 at Gothenburg. These societies only require interest for their capital; the surplus of their profits being handed over to the State. They have diminished the number of public-houses, and raised the price of spirits. In Norway the duty on pure spirits is 187 francs 40 centimes per hectolitre, and the consumption per head is 1.75 litres. Similar societies to those in Sweden exist in Norway for the monopolising of the spirit traffic. In Switzerland, the Federal Government on 23rd December, 1886, passed a law for State monopoly of alcohol. The consumption per head is said to be five litres of pure alcohol. From 1877 to 1881, 20 per cent. of the cases of insanity were due to alcohol. In Canada, the consumption of pure alcohol is 1.95 litres per head, and the duty 240 francs per hectolitre. In the United States, the duty is 245 francs 36 centimes per hectolitre of pure alcohol; and the consumption per head is about $2\frac{1}{2}$ litres. We thus see that England pays the highest duty (477 francs per hectolitre), and Baden the lowest (23 francs per hectolitre); and that Denmark has the highest consumption per head (8.85 litres); while Italy has the lowest (1.04 litres).

Conclusions.—The Commission, after this important evidence, comes to the following conclusions. “Now, more than ever, the situation is grave. A certain number of our departments are threatened with a rapid degeneration of the race. Alcoholism is the cause of misery, and has already brought trouble upon the whole of the social economy.” They therefore recommend, first of all, the suppression of all private distilleries; they would forbid the sale of all spirituous liquors shown to be injurious to health, and all toxic alcohols to be entirely eliminated. They recommend the establishment of rectifying houses, where all spirits may be sent. They insist upon the hygienic control of all alcohols. They recommend that no alcohol, except that which is chemically pure, should be permitted to be added to wines, and that the percentage of alcohol in wine shall not be greater than twelve. The sugaring of wines ought to be preferred to the addition of alcohol to them. Finally the commission advises that licenses shall be four times as heavy as they are at present in France.

ALCOHOL IN HOSPITALS AND THE SICK-ROOM.

AN ADDRESS TO NURSES.

By THOMAS SAVAGE, M.D., M.R.C.P. Lond., F.R.C.S. Eng.,
Surgeon to the Birmingham and Midland Hospital for Women, &c.

I AM well aware that in addressing a number of nurses I am speaking to women possessed of more than an average amount of intelligence; for nurses are, as a class, intelligent—in fact, they must be, if they are to carry out efficiently the great object of their life. Nursing, being one of those callings in life which has an aim somewhat higher than the mere earning an honest livelihood, involves an amount of patience, kindness, and self-forgetfulness, that many people who have not had some experience of nurses are totally unaware of. And therefore it is that you should have as intelligent a view as possible of all questions concerning either your own health or the wellbeing of your patients.

Now the question of drinking ale, wine, or spirits, is one of the most important that doctors and nurses have to deal with, because our advice is so frequently sought by patients, and our influence and example so very potent for good or evil.

Most of you know that the intoxicating element in ale, porter, cider, wines and spirits, and other fermented drinks, is the same

in all, and is called alcohol. I shall therefore, in the following remarks, speak of alcohol from a medical point of view, and you will understand by it that substance in fermented drinks which causes intoxication, whether in ale, wine, or spirits.

The hard work which a nurse has to do in the discharge of her duties, and the kind of fatigue which that work induces, have an effect which makes her peculiarly liable to the temptation to take alcohol in some form or other; and the object of my short paper this evening is to show that in reality alcohol is not only not necessary for your well-being at all, but, in fact, that your health, strength, and ability to do your work in the best possible manner, will be greater by being an abstainer from it altogether.

One very prominent physiological effect of alcohol upon the system is its "*anæsthetic*" property, *i.e.* its power of diminishing or altogether taking away the sensibility to pain. This is known to all. It acts to some extent like ether or chloroform, and other such agents. The man dead drunk in the gutter is a familiar example, upon whom a surgical operation might be performed without his knowledge. The reason, however, why alcohol is not used for such purposes is clearly because, to produce the desired anæsthetic effect of perfect insensibility to pain, it would be necessary to give such an amount of alcohol as would have a dangerous and, very probably, a fatal effect upon the brain. Taken in smaller quantities, however, the same effect is produced, though to a less degree. The ordinary glass of beer, wine, or spirits, dulls the keen edge of sensibility, *i.e.* it has a slightly anæsthetic effect; and with many people, especially those of a nervous temperament, it is followed by a considerable reaction, so that when the effect has gone off, the pain, the trouble—real or fancied—or the fatigue for which the glass was taken, as a solace, appears greater, and recourse is again had to the fascinating dose which is now required in gradually increasing quantities to produce the desired effect.

In addition to these effects observed on the body, the same may be noticed upon the mind, especially that portion of our mental state which we call "*judgment.*" With many a single glass will produce a change of temper, either to amiability or to anger, or will warp a man's judgment, inclining him to do or say things which he would not at other times do or say. It is needless to illustrate this; examples are unfortunately only too often before us. I would merely ask what value we would be inclined to place upon the judgment, opinion, or advice, of a doctor or a nurse, if exercised under the influence of alcohol.

The good effects of a change into the country, especially for town dwellers, residence at the seaside, and abundant bodily

exercise, are familiar to every one; and the reason of the benefits so obtained is that we thereby inhale into our lungs more oxygen gas, and so favour increased combustion of our tissues, especially of the worn-out particles in our body, which have served their purpose in the economy, and now require to be eliminated. This then is the secret of the ruddy lips and the fresh looks of those who are in perfect health, viz., that the combustion of effete matters in the body is very active, and the blood is consequently kept purified. Now one of the first effects of alcohol in the body is to retard this process of tissue change, or combustion of the useless and deleterious matters in the blood. We see it, to an extreme degree certainly, in the publican with his flabby and bloated look and his fat unwieldy body. To a much less extent we are aware of it in the tired feelings, and the inability and disinclination for exertion, which comes over people who habitually take alcohol; and it is within the experience of all persons who have both taken alcohol very moderately, and also abstained from it altogether for a time, that, during abstinence, there is much less lassitude and fatigue felt, and a greater capacity for continuous work. This prevention of tissue change by alcohol is also one reason why abstainers have very often a larger appetite for solid food than non-abstainers. If a glass of beer or wine is taken with the midday meal, we all well know the difference in the ease, the comfort, and the amount of the afternoon work, compared with what happens if nothing of the kind is taken.

The physical effects of alcohol upon the body may be said to be direct and indirect. The direct are those which are most palpable, such as affections of the stomach and liver, diarrhœa, loss of appetite, vomiting, sleeplessness, and others too numerous to mention here. The indirect effects are often unknown to the patient or his friends; and are seen by the doctor in affections of the kidneys, the liver, the heart, the brain, and other organs. I believe few people outside the medical profession have an idea of the large number of deaths which occur every year, and are certified according to the organ or organs principally diseased, but which are in reality attributable to alcohol. The loss to the country of persons in the prime of life from this source is enormous. Fatty degeneration of the tissues of the body, or, as it might otherwise be called, premature old age, is one of the most frequent physical results of taking alcohol, even when taken in what some might call moderation.

Unless an intelligent knowledge in the matter of drinking is obtained, it is easy to see how anyone may go astray, without wishing to do wrong; and nurses are especially exposed to the temptation to take alcohol from either their own ignorance about such matters, the solicitations of friends, inability to say "No,"

or other causes. Hence the importance of your knowing what is right and best to do both for yourselves and also for your patients.

1. *For yourselves.*—When sitting up at night the best thing is to encourage the taking of wholesome simple food, and, if sleepy, an occasional cup of tea. Tea, to do good, should be carefully made, *i.e.*, the tea itself must be good, the water boiling, and the infusion not allowed to stand in the pot more than four or five minutes before it is poured off the leaves. It is often less likely to disagree with the stomach if taken with a little sugar, but without any milk. The small quantity of milk generally taken, with a large quantity of the hot fluid, not infrequently gives rise to discomfort in the stomach. Alcohol will only make you more sleepy and tired. Loss of rest from long sitting up, or anxiety for your patient, produces great fatigue, both mental and bodily, and is generally accompanied by nervous exhaustion. This is frequently shown by a dry mouth and want of appetite. You may in such circumstances be persuaded to take a glass of some alcoholic fluid to restore you; but you will, by so doing, be making a very great mistake. What you want, first of all, is rest—sleep, “Nature’s sweet restorer”—and then some simple food.

2. *For your patients.*—I always think that a very grave responsibility attaches to the position of us doctors as to what advice we give in this matter. Recently I saw a lady who was very ill. Her illness was clearly due to excess of alcohol; but her death, which is likely to occur ere long, will most probably be registered as due to disease of the liver. On telling her that she was, in plain English, killing herself, she replied that her previous doctors had for years always ordered her to take a little stimulant. Almost as great responsibility attaches to a nurse’s position. She gains the confidence of her patient, and her opinion, advice, and example, are thought much of. You can do much to educate the public in this matter. Most patients, though reduced to the lowest state of debility, may recover perfect strength without alcohol, and I have known, as is the experience of every doctor, cases of exhausting illness and severe operations do the same. Patients *think* that they require alcohol when they are what they term faint or low. To take it for such a condition is only too often the first step in the downward progress to excess. The best remedies to advise are a little nourishing food, as milk or beef-tea, cocoa, a biscuit, a sandwich, &c., or a cup of well-made tea or coffee; and, if *really* faint, to lie down for a short time. People with a nervous temperament are those who most frequently give way to excess, upon whom the troubles of life appear to hang so heavily. Subject of course to medical advice you will be right in advising *drinkers* to leave off all at once. Generally

they will plead that it will be both better and safer to do so gradually ; to attempt this gradual process nearly always, if not always, ends in failure. Drink possesses, with many, one of the greatest fascinations, and it can only be overcome by entire and sudden abstinence. This can, in nearly all cases, be done perfectly safely. You may remember some few years ago, when the Tichborne Claimant was convicted, that nearly everybody said, "How dangerous it would be to take all his drink away from him at once, and put him on ordinary prison fare," because he had long been in the habit of drinking very greatly to excess. Well, the result was that in a few weeks of simple food, proper exercise, and complete and sudden abstinence from alcohol, he was brought to such a state of good health and capability for work as he had been a stranger to for years.

An important class of people, for whom total abstinence is of the very first importance, can be largely influenced by nurses for good. I refer to some of your own sex. You have chosen an honourable and hardworking calling in life, and the hard work will bring you happiness, because it is done for others ; but, unfortunately, owing to causes too numerous indeed to mention now, many of your sisters have no definite occupation or aim in life. This is often seen in married women who have no family, or not enough to fully occupy them. Here there is a large field for your care and wholesome advice. With these women there is an enormous temptation to drink, and nothing but total abstinence will do any good. They are often women of more than average intelligence ; but want of occupation, want of sympathy, and want of power of self-control, with excessive emotional tendencies, seem to be a combination of qualities often observed in women, and to act as a cause for giving way to excess.

Many of our social customs are based upon altogether wrong principles—*e.g.*, if a patient is weak we are told he must be in need of plenty of good, nourishing ale, stout, or wine, to strengthen him. This is a popular fallacy. One of the weakest men in the community, and least able to wheel a barrow or do a day's work, is the publican, and yet he takes plenty of good ale to strengthen him. When we want our horses to be strong, and do extra work, we give them oats and beans, which we know contain all the elements necessary to supply bone and sinew, in the same manner as meat and bread, and other ordinary articles of our diet, will do for us.

It is a common impression, if a man does a little extra work, especially of the nature of muscular labour or exercise, that he will require some form of stimulant to support him. There is no greater mistake made. Edward Payton Weston, about two years

ago, in winter weather, walked 5,000 miles in 100 days ; and during the whole time he took no alcohol whatever. A much greater amount of work, both mental and bodily, can be accomplished without the use of alcohol than with. Many of our greatest thinkers and brain-workers never touch any. Then, "take a glass of something to keep you *warm*," is another of the popular fallacies. The same amount of warmth can be effected by a cup of tea or coffee, or milk, without the corresponding harm resulting if alcohol be substituted. The *warmth* supposed to be produced by alcohol is more apparent than real. It is caused by alcohol allowing the smaller blood-vessels of the surface of the body to dilate—*i.e.*, to increase in size, and so to hold more blood in them. Hence a really greater surface of the life-fluid is exposed to the external cold, and the internal organs are by so much deprived of warmth. It has been found by actual facts that exposure to cold can be borne better by abstainers than by non-abstainers. This was the case in one of the expeditions to the Arctic regions, and it was noticed that those men who took no rum at all kept in good health ; those who took a little very often suffered from sleepiness, which, you know, is a very serious thing in extremely cold countries ; and those who took the rum in excess were, as a rule, the men who died. In the Ashantee campaign in Africa a few years ago, Sir Garnet Wolseley found that those men who took no alcohol were stronger, more robust, and could stand the fatigues and privations of war better than those who took their accustomed allowance of spirits. In like manner, exposure to great heat can be borne better without alcohol than with. The one chief reason of so much illness among Europeans when residing in India and other tropical countries is that they will not adopt the simple, unstimulating food of the natives, but attempt to live as they did when at home. The people who complain most of the heat during our summer are those who take alcohol ; the larger the quantity the greater the discomfort. And it is quite certain that the taking of alcohol has no power whatever in enabling us to resist the onset of disease.

I hope the few remarks which I have had much pleasure in writing down on this paper may prove to be a little help to you in the discharge of some of your important and beneficent work. I believe, speaking as a medical man, that nearly all, if not quite all, persons of average health can do better without than with alcohol. I am perfectly certain that people can do more work, both mental and bodily, that their temper is better, and that they are possessed of more cheerfulness and power of endurance without alcohol than with. It may seem strange to say it, but I am sure there is a great difficulty in getting people to be per-

fectly honest, even if they can be perfectly accurate, in their observations of themselves. Many, very many, *think* they cannot do without alcohol, whose judgment is rather influenced by their inclination than guided by true observation.

If what I have been saying will lead you to think very seriously about the non-necessity that exists for taking alcohol, though having to do work of the hardest kind, it will be well; if my remarks may convince you of that non-necessity it will be better; and if they cause you to act upon it and to become total abstainers it will be best of all.



Miscellaneous Communications.



THE CLASSES OF INEBRIATES AND THEIR TREATMENT.*

By Dr. F. J. GRAY, *Old Park Hall Retreat, Walsall, Staffordshire.*

WE are quite at the commencement of this most important subject, although we, who have had some experience of this class of patients, are able to come to some conclusions as to the necessary treatment of them.

I first began to take these patients into my Home when in practice at Rugby, in the year 1876, my attention having been drawn to them by a Home kept by the Rev. Prebendary Grier, who nobly tried for some years to treat the inebriate, by endeavouring to improve the moral condition first without restraint, which principle I need not tell you failed. Therefore my experience of treatment has continued for twelve years under these different conditions — first, when in private practice when only moderate restriction could be enforced; secondly, at a Licensed Home — viz., Hall Court, Cannock—where further restrictions were enforced, but the Home was limited in its grounds, and therefore, for the necessary exercise of the patient he was allowed too much liberty for his permanent good; and now in my present Home at Old Park

Hall, where I have plenty of grounds for the necessary exercise without the patient being exposed to the temptation of liberty and drink.

I shall divide the patients into three classes, although probably two would suffice—those who have by association, &c., for a long time been in the habit of drinking a quantity every day, and those who have arrived at a stage, when they have drunk for some considerable time, and have had attacks of delirium tremens, and then have been able to abstain for some weeks or even months, and by some cause have been led to have a drink, and then have found it impossible to stop without a debauch; these I think are what may be called the dipsomaniacs. The first of these I would sub-divide into two classes—viz., a young man who has, by bad habits and companions, been drinking regularly daily, and who, by some physical weakness, is in consequence easily affected and deranged; and a man who has for many years drunk to excess, although not to drunkenness, and whose vital organs have become much deranged, even to the extent of some permanent mischief to them. I do not know that there is any advantage in dividing these classes, as the

* Read to the Society for the Study of Inebriety, October 2, 1888.

treatment for all varies but little in extent; there is one thing which is most important, and especially necessary in the treatment of all, that is, isolation from the temptation of intoxicants.

These intoxicants are *no* respecter of persons. They treat all grades of persons similarly—viz., the doctor, the parson, the lawyer, the artist, the publican, the artisan, the labourer, the learned and the ignorant. I am glad to be able to state that I have seen many happy results of the judicious treatment of the first two classes, but I cannot say so of the third—viz., the dipsomaniac.

If you will allow me, I will give you here, in a few words, my experience at my different homes under the different regimes, &c.

I saw in Mr. Grier's home the failure of moral teaching only. I found it impossible to be of much service to these patients when taking them into a private home, and when at Cannock, where I had not much ground for exercise, and when the patients went out for their exercise, some with attendants and some without, the results were so unsatisfactory that I determined to seek a home where all the necessary exercise and air could be obtained without going out of the grounds, although I am happy to say I can point to some cases who resided with me there for some time, amidst even many temptations, who are now, after a lapse of six years, doing well, having remained total abstainers ever since; but on the other hand, *many*, who even did fairly well when in residence, and who began to drink when at large, are now dead. I am happy to say the results of my present home are more satisfactory. I shall with your kind indulgence give you a description of it, with its advantages and its disadvantages, later on. I will first describe the treatment I adopt and their application and results to the different classes. A patient of the first class often comes in a semi-sober state although sometimes drunk, but by confinement to bed, giving him nourishing liquids, such as beef-tea, milk, sometimes eggs with a mixture

of bromide of potash and ammonia, with the henbane and ammonia in the beef-tea, &c., he soon gets sleep, recovers his appetite, and in a few days is able to leave his bed. Then by continuing alteratives with a stomachic mixture, plain and regular diet and exercise, he soon recovers himself, and is cured if he can be convinced that to return to former associates and habits means a much worse condition in future (cases of which they see during their residence which often has a very good effect). In this class I have seen some good results, but, although the next class are in a much worse condition on entering, I have seen the best results from them, which I attribute to their firmer determination from their more experienced years (when relieved of the violence of their attack) to adopt the means laid down for them—I mean the better application of all the means advised for them. In this class on entry, I have found some trouble in getting them to adopt the first measures, viz., to go to bed at once. I have found when yielding to their entreaties and allowing them to remain up, after some few hours restlessness and great excitement exist, an epileptic seizure has given me the opportunity required, of carrying them to bed, taking their clothes and all articles that are breakable from the room—also any knives or razors; some of these with the former treatment of nourishing liquids, bromide of potash in dram doses with ammonia, and dram doses of henbane every four hours, get some good sleep and in a few days are able to leave their room; others, that have gone to bed at once, under the same treatment have been able to sleep, and in a couple of days have either begged to get up because feeling so well, or have taken French leave and got up, and after some hours of undue excitement or knocking about have had acute delirium come on, which sometimes has been relieved by a direct dose or two of chloral, of course by procuring some hours of sleep; others, principally publicans who have been drinking very hard, have gone on from the acute and violent stage of delirium tremens to a chronic

state, and after a month or more of anxious watching and care I have had to send them to the Asylum, with what you may call a disconnected brain, from which condition they have recovered entirely in a few weeks, except in some cases where great loss of memory remains for months.

I call to mind cases after the acute stage—I have had several cases of lung complications—both bronchitis and pneumonia, and in one case in an old man aged seventy, who was delirious for a fortnight, and who had a severe attack of bronchitis, we fed him with a spoon for a week or more, and when recovering from this he had a violent attack of epistaxis, but still he recovered and left a month afterwards fairly well. I have had other cases succumb to pneumonia, in many of these cases the difficulties are so much greater on account of the mischief at this stage of delirium tremens. I have noticed a great difficulty of swallowing, and when swallowing they contracted their face as if they had a sore throat and probable organic disease of the vital organs.

The after-treatment of plain nourishing diet, with regular habits and exercise, brings them into a new state of existence, such as they have not experienced for years.

The third class I might again subdivide into those who might be called honourable men, and who will, even when exposed to some risk, resist temptation for weeks and months, and who are led by accident to take a drink, and who are unable to stop without getting drunk; and, on the other hand, the low, degraded type, who, even when every opportunity is given him to avoid temptation, will do all he can, and never end his scheming till he has reached and satisfied his desire of getting drunk; in this class; as I have said before, I have seen no cases of permanent cure, in fact, we have no Homes at present sufficiently secure; for this class Homes want to be surrounded with high walls as some asylums, so that it is impossible for them to be able to get out for some years, and it is unfair to the other

classes for this dipsomaniac to be in the same Home; after giving some months of fair trial I have considered it my duty to obtain the discharge of such a patient, on account of his example and influence being detrimental to others.

OLD PARK HALL.

The Home, built only twenty-four years since, by a wealthy iron merchant, for his own residence, is situated in a small park of forty-five acres of grass (twenty of which I occupy), with a lake of two acres, and this is well stocked with fish, and has upon it a boat. There is also a small house where the patients can undress for bathing, or in winter time put on their skates; on the road side (which is the road from Walsall to Birmingham, being one and a half miles from the former station, and about seven miles from the latter) is a high wall, and the entrance is by a lodge, at which the gardener lives; the drives and walks round the lake and plantations are about one mile in extent; we have a tennis lawn, a cricket ground, and a lawn for bowls, as well as some beds for quois. There are two large conservatories attached to the Home, and a billiard-room. In the yard is a carpenter's shop and a potting-shed, so that there is plenty of occupation for exercise as well as recreative amusements, without going off the premises. I have adopted the mode of having two classes of patients, first and second; the fees varying for the former according to bedroom accommodation, and the latter somewhat according to the amount of assistance that can be rendered by the patient. The first class live with me in the front of the Home; the second in the back part of the Home, with male attendants—these latter are taken at 35s. per week, and they have to render services about the grounds morning and afternoon, or in the workshop, and the evening they have for recreation—bowls, cricket, fishing, &c. I also take a couple of patients in the front part of the Home, in double-bedded rooms (this is with a wooden partition through the centre),

for two guineas per week, and I have a claim upon their services for about two hours morning and afternoon. This is very beneficial to them in several ways; they are doing something towards their living, and not idling their time away, and they are getting bodily exercise, which is so important a factor in their restoration to health, and it is my great endeavour to interest all classes in some out-door work, as well as amusement. The work required of them is various, such as assisting the gardener in all gardening operations, watering conservatories, potting and repotting plants, helping to mow the lawn with machine, rolling them; all such patients, in the hay season assist in haymaking. In the cricket season we have a half-day's match every week. I get a surgeon or schoolmaster to bring up a team from the town, and often some medical men and clergymen come up for tennis, so that there are plenty of means both for exercise and amusement on the premises. I can take about fourteen to sixteen patients in; this includes sometimes those who render assistance both to male attendants and the female servants. We begin the day with prayers, read from the Book of Common Prayer, and finish the day with prayers. Breakfast at nine o'clock, which consists of porridge (to which I attach a great importance), bacon and dried fish, varied with eggs, sausages, bread, butter, jam, and marmalade. Luncheon at half-past one: soup, pastry, and cheese. Dinner at six: soup or fish, a joint varied with rabbit, poultry, &c., pudding and cheese. Tea at half-past eight: tea, bread and butter. I allow each patient two ounces of tobacco a week. The evenings are generally spent at a game of whist or billiards, with occasional evenings of music and singing with the family. Daily papers. Patients are allowed an order for church on Sunday mornings, and in the evenings in the summer, but not in the winter evenings unless with some part of the family. The great difficulty is to get them to take sufficient manual exercise; having got into lazy, irregular, and indolent habits,

it naturally is hard for them to commence the active life; those who do make very fast progress.

I try to impress upon them the necessity of looking to Him who is the author and giver of all good things for help, to try to walk side by side with Him, whatever they do to do to His glory and with His blessing, then with the means before them I am convinced they will have strength given them to overcome all temptation.

STATISTICS.

I do not consider the statistics of a Home are worth much, I mean in the manner that they are generally quoted, as there having been so many entered during the year, so many left, so many doing well, and so many gone to drink again; because they are all probably under different circumstances — viz., some come for a short time merely to get over a drunk, others cannot stay longer than just to recover themselves from a bout on account of their business, and some come by pressure from relations, and although many make a long residence they are always chafing against the requirements, and do not see the necessity of their abstaining when they go out, and mean to drink; therefore these fail, so that the information we get generally is not reliable for permanent results, and I could wish that the inspector would frame some different mode in his report, and then we should not have such assertions as are made by one licensee (that two-thirds of his patients left during the year having been permanently cured). I should be sorry to say this of those patients who have left me some six or seven years, and who have been total abstainers ever since, and some are now doing well. The conclusion I am able to come to, is that if the patient will accept my treatment at Old Park Hall for twelve months or more, he has every opportunity afforded him for cure, and the cases, nearly without exception, that have resolutely adopted the treatment for twelve months or more, are some several years hence remaining firm and doing their duty in the world, and may *hereafter* be called permanently cured.

THE ACT.

The one good benefit I consider of the Act, is that it binds a man for a term, and does not leave him to be the judge as to whether he has received the required benefit; often patients when they feel themselves as it were stout, which they probably have not done for years, consider they have had enough and are anxious to get back to work, and see no necessity for further stay; but this is often only the stage of relief—often too, when a little hitch occurs, a private patient will make arrangements to leave before having had full benefit, whereas if under the Act, the hitch tides over.

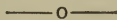
There are many defects, the brunt of which falls upon the licensee. One great defect is, that a man can easily escape if he wishes, and the licensee has no power to use force to prevent him; he can go out and get drunk and come in again and kick up a disturbance and nothing can be done with him; this may be all done before you can get a warrant. There is no punishment for this patient except for having had drink, and the Home Secretary

will not prosecute. When expenses are incurred by issue of warrant and bringing the patient back from a distance, there is no provision made to compel the patient or his representatives to pay them. There also should be some punishment for a patient who asked for an enquiry which proved frivolous and vexatious.

There have been some improvements made in the rules made by the Home Secretary as to the letters, &c., suspected, or letters and parcels received, &c.

They have also altered the necessity of having the signature witnessed by Borough or County Justice, any two Justices will do.

I hope the Government will be able, before long, to look seriously at the matter, and then they will see it is quite as necessary to have Retreats as it is to have Asylums, and then power should be given to Justices to commit drunkards to the Retreats, and compulsory manual labour should be enforced, when I am convinced the permanent results would be much greater than they are at present.



AN ADDRESS ON THE MORBID ANATOMY AND PATHOLOGY
OF CHRONIC ALCOHOLISM.*

By JOSEPH FRANK PAYNE, M.D., *Vice-President of the Pathological Society ;
Physician to St. Thomas's Hospital.*

MR. PRESIDENT AND GENTLEMEN,—When the Council of this Society did me the honour to ask me to open the discussion on this occasion, I accepted the task perhaps with a somewhat inadequate appreciation of the vast extent of the field which now lies opened out before me. It is only since I have been endeavouring, to the best of my ability, to prepare for the duty devolving upon me, that I have thoroughly realised the multiplicity and variety of the facts which have to be dealt with, and the extreme difficulty of com-

pressing them into a moderate compass.

I must, therefore, ask your indulgence while I appear before you, not in the character of an explorer bringing home the results of travel in new and untrodden ways, but rather in that of a geographer trying to sketch a rough outline map of a country hardly as yet completely explored or surveyed.

The extent of our country, however, though wide, is not unlimited. We are not going to discuss the action of drinks on the human body generally, nor all the diseases to which habits of excess can give rise, nor, still less, the moral or economical consequences of such habits, but solely the material

* Delivered at the opening of a discussion at the Pathological Society of London, December 4th, 1888.

changes which the use of alcohol in excess has been actually shown to produce in various tissues and parts of the body.

HISTORICAL INTRODUCTION.

First Period: Ancient Medicine.—Before entering on the main topic, I will, however, ask your attention for a few minutes to some rough notes on the history of the subject. This begins in comparatively modern times, for ancient medicine knew almost nothing of morbid anatomy. Doubtless, so long as wine has been known, so long has there also been known excess in wine; and among the Greeks even, such excesses were neither rare nor harmless. Hence we find scattered notices in the ancient medical writers showing that the symptoms of inebriety were observed, and some graphic descriptions and some good clinical rules, founded on these observations, might be quoted; but, so far as I know, there is nothing in any ancient writer bearing on the morbid anatomy of the disease.

Second Period: Rise of Morbid Anatomy.—This is, of course, equally true of mediæval medicine, on which, therefore, we need not linger. It was not till the sixteenth century that morbid anatomy began a separate existence as a science; first under the protection of her elder sister, normal anatomy; gradually, in the seventeenth century, assuming a more independent position. But among the many excellent scattered observations on the structure of diseased organs, with which the medical literature of this century abounds, there are very few bearing on the action of wine or strong drinks.

As an instance of the most advanced knowledge of the age on such subjects, we might well quote our own Harvey, not only as a man of genius, but as a skilled physician well versed in all the learning of his time. In Harvey's MS. lectures, lately published in *fac-simile*, I have found nothing directly referring to inebriety; but there are certain observations which would naturally have led to this being spoken of

had its importance been recognised. For instance, in speaking of the anatomy of the liver, he describes twelve different cases or examples of diseased liver which he had himself seen; one was "russet, hard, contracted, absque sanguine," which seems like a small cirrhotic liver. Another, according to the rough notes, was "russetish, ingentum et durum, plane scirrus tumour, absque fere sanguine, asperâ superficie;" a large, hard liver, evidently like a scirrhus tumour, almost bloodless, and with a rough surface, which could hardly have been anything else than cirrhosis. He also says that such livers are found in cases of dropsy (fol. 39). In another place he discusses dropsy generally, as being said by Fernelius to depend upon the liver, but himself inclined to the opinion that the dropsy is the cause of the morbid change in the liver rather than the contrary. Dropsy may arise, Harvey says, by drinking more than the kidneys can get rid of, so at length even the fleshy parts are turned into water; but so long as any of the liver remains, the patient will live and not die.

This seems to bear upon our subject, but, really, I think it is founded upon the common belief at that time that dropsy could be caused by drinking too much water; a fault which consequently the bold spirits of the time were much on their guard against. Altogether these notes make one regret the loss of the observations on morbid anatomy which Harvey is said to have collected.

Harvey's MS. was written in 1616. Not long after this some notices of alcoholic diseases begin to appear, but the only lesion referred to this cause by writers of the seventeenth century was cirrhosis of the liver, and its consequent ascites. The earliest case of this kind which I can find is of the date 1626, though published many years later in the great storehouse of such observations, Bonet's "*Sepulchretum*" (Geneva, 1679), where it is quoted from Gregorius Horstius. A German nobleman, of intemperate habits, suffered for three years from jaundice, and was found to have the

liver hardened, as was evident to the touch. He improved under treatment, but having "indulged his genius" for several weeks, he was attacked with epistaxis, followed by dropsy of the belly, and scrotum. The latter was punctured, and two measures (quarts?) of fluid escaped, but the abdominal swelling did not diminish, and after some months he died suddenly. On opening the body, ten measures of fluid were found in the abdomen. The liver is described as "scirrhosum et induratum, necnon exsuccum instar ligni putredine corrupti," that is, "scirrhus, hardened, and juiceless, like rotten wood. The mesenteric veins were filled with gelatinous material, surrounded by clotted blood, which could be pulled out to the length of an ell and a half.*

Surely this, as a clinical and pathological picture, could hardly be improved. A hard liver, jaundice, ascites, epistaxis, and sudden death, with thrombosis of the portal system—scarcely any important feature is wanting.†

Several cases might be quoted from the same work, but I will only give one more.

A French soldier, returning from the wars in a thirsty mood, came upon a pool of stagnant water, where he first bathed, and of which he then drank a mighty draught (*haustus Germanicus*). This he took the first opportunity of correcting with abundant libations of strong wine, and the remedy was so often repeated that he fell into a severe fever, followed by dropsy of the abdomen and legs. The belly was tapped repeatedly, and in all 168 ounces of fluid were drawn off, of which the curious observation was made that, first and last, it always smelt like the stagnant pond-water of which the patient had so incautiously drunk. After death, there was still some water in the peritoneum, and the liver was found as hard as wood.

In these cases and others strong

wine was clearly recognised as the source of evil; but other causes were not excluded, as Bonet records the case of a boy who contracted fatal schirrus of the liver and ascites by eating too many figs. Then there is another curious history of a certain glutton who ate as well as drank to excess, and whose liver was found after death of an enormous size—clearly an instance of the other type of alcoholic liver, the fatty, such as we might find now in a robust and plethoric brewer's drayman.

English medical literature of this period yields few valuable observations. One by Walter Harris, the correspondent and friend of Sydenham, author of a book on the diseases of children, and of "Pharmacologia Antiempirica" (London, 1683), may be worth mentioning. In the work just mentioned he relates the case of a gentleman, aged thirty-six, who had brought himself to an insensible necessity of drinking sack several times a day until he fell into an irrecoverable consumption. On opening the body after death, the liver was found "so thoroughly boiled with constant heat that a sound liver could not well be more boiled over the fire than his was by the use of sack. It was in colour and brittleness the very same as a long-boiled liver can be." Although dropsy is not named, probably it is meant that there was ascites also. Harris observes that sack does much more harm than French wines; and though the reason he gives for this is a strange one, it shows that the causation of cirrhosis was beginning to be understood.

There is still one observation of dropsy connected with liver disease which I will venture to quote, although its dependence upon alcoholic drinks quite escaped the surgeon who has recorded it, one John Browne, surgeon to St. Thomas's Hospital. The account, which appears in the *Philosophical Transactions*, vol. xv., 1685, is entitled, "A Remarkable Account of a Liver, appearing Glandulous to the Eye," and is accompanied by a figure, "accurately taken down by Mr. Faithorn," an eminent artist and engraver of the

* "Sepulchretum," p. 1052.

† In the same case there is a very good description of xanthelasma in the form of tubercles on the knees, elbows, &c.

day, which I have thought worth copying to show to the Society.

"The person was about twenty-five years of age, a soldier in one of His Majesty's regiments here in town, who contracted his distemper by drinking much water, when he could not stir from his duty, and catching cold at nights in being upon the guard. He was under the care of our physicians for some time, by whose directions his swellings did by times abate; but afterwards it was observed, that the method which had been beneficial to others, had not here the like success, his swellings returning upon him as before, so that there was nothing more now to be thought of, but a paracentesis, which operation, however, is judged very hazardous, by reason of the time of the year, and for that the patient was very much emaciated; yet he being so much swelled, that it was uneasy to him to lie in his bed, he importuned us very often, and with great earnestness, that the operation might be performed. Whereupon, a paracentesis, by the physicians' consent and directions, was made by me, whereby we drew from the patient about three pints of brinish liquor, and within four days after as much more; the next day morning he dyes, and his death, as was found upon dissection, was partly occasioned by a mortification upon his scrotum and penis.

"This operation was performed to the satisfaction of the physicians and chirurgeons that saw it, and by it the patient had some ease for the present. Upon opening the body I believe I took out about twenty-four quarts of water; he had a large inflammation upon the peritonæum, all his other inward parts not much disaffected, except the liver. Its magnitude was not extraordinary, but seemed rather less than usual, but that which was very remarkable (and I think the like was scarce ever observed by any author) and seems much to confirm the opinion of the learned Malpighius, is this: It consisted in its concave, convex and inward parts, of glands which (with the vessells), made up one whole substance thereof; these glands con-

tained a yellowish ichor, like so many pustulæ, and was I suppose part of the bilious humor lodged in the same, though otherwise the liver between the glands was of its usual reddish colour. In the bladder of gall we found a soft friable stone, but otherwise nothing considerable further in that part."

A private in the Guards is hardly likely to have acquired dropsy by drinking water, and there can, I think, be little doubt that the so-called "glandular structures" were the ordinary soft bilestained masses separated by fibrous tissue, which we find in cirrhosis of the liver. And the figure, allowing that it is drawn in a formal and conventional manner, appears to me to represent the same. However, it is left to the judgment of the Society; but as being, if I am right, the first published figure of cirrhosis of the liver, it has some historical interest.

Third Period: Use of Distilled Spirits.—We have now seen what the seventeenth century contributed to the morbid anatomy of alcoholism. A new period was now about to begin, that in which distilled spirits came into use as a beverage. With this, new and more severe kinds of alcoholic disease began to appear,

macies et nova febrium
Terris incubuit cohors.

and, but for this disastrous invention, I am convinced that our programme for discussion to-night would be much shorter than it is.

It was at the beginning of the eighteenth century that distilled spirits began to be generally drunk. The art of distillation, of course, was very much older, and was practised in London at least in the sixteenth century, if not earlier; but up to the time now spoken of, distilled spirits were chiefly used in medicine, and were for a long time very costly. But towards the end of the seventeenth century they became much cheaper, so that in 1678 a pint of Nantes brandy cost about sixpence. When the use of such drinks became common I do not know, but in 1724 we find the College of Physicians

making a public representation as to the evils of spirit drinking. At this time gin was so cheap in London that a person could intoxicate himself for one penny. A duty was imposed in 1736, and other laws made to check the practice of spirit drinking. The name of the Rev. Stephen Hales, the physiologist, ought to be mentioned in a medical discussion for his efforts in this cause. It is also clear that alcoholic diseases increased, and were more observed by the medical profession; but the morbid anatomy of the subject was little advanced, at least in England, till the end of the eighteenth century. Erasmus Darwin made some good observations on the symptoms of drunkenness, but has only contributed to morbid anatomy in the statement that pigs fed on grains from distilleries get diseased livers.

Baillie described cirrhosis under the name of tubercles of the liver, and declared it to be a disease *sui generis*, different from schirrus.

J. C. Lettsom first noticed some of the symptoms of alcoholic paralysis, and James Jackson, of Boston, America, gave, in 1882, a very good account of a disease resulting from the use of ardent spirits, which he calls arthrodynia, which is evidently the same.

But all the knowledge of this period is summed up in the classical work of Magnus Huss on *Alcoholismus Chronicus*, translated from Swedish into German in 1852. Huss describes very carefully the morbid changes of all parts of the body met with in drunkards; but, with regard to the nervous system, it is noteworthy that he regarded the disturbances of these parts as being unaccompanied by any change in structure, and hence as being symptoms of a certain kind of poisoning. It is to these that he applied the name, then used for the first time, of chronic alcoholism, and some of his descriptions have left little to be added to.

Fourth Period: Era of Pathological Histology.—The most conspicuous advance on the subject since the work of Huss has been the demonstration of minute changes in various parts of the nervous system affected by alco-

holic disease. At the same time the histology of other organs has been studied, the identity of the minute changes found in different parts has been demonstrated, and gradually the uniformity of the action of alcohol throughout the whole body has become clearly manifest. We are now able to look upon alcoholism as a form of poisoning, and to compare it with the action of other poisons, especially with metallic and other so-called irritants. The history of alcoholism must come to an end here, for it would be difficult to separate it from the exposition of different branches of the subject.

ALCOHOL AS A POISON.

I have now to consider the question, In what sense is alcoholism a poisoning; or, in other words, in what sense is alcohol a poison?

Since we must here evidently look upon poisons in a somewhat wider sense than a purely medico-legal one, perhaps I may be permitted to quote a pathological definition of poisons which I have given elsewhere:—“A poison is a substance capable of injuring the body, either by causing damage to the tissues or by producing functional disturbance.” On this basis I divide them into two classes, namely, tissue poisons and functional poisons. I will take the latter first. A functional poison disturbs the mode of action of the tissue elements without permanently altering their composition. Hence their action is transitory, and ceases when they are eliminated from the body. Most functional poisons are called narcotic or neurotic, because their most conspicuous action is on the nervous system. But some such poisons—for instance, opium—affect animals without a nervous system, and possibly even plants, so that their action is general. Substances like quinine, which affect protoplasm, though without showing any special predilection for the nervous system, and hence sometimes called protoplasmic poisons, are also included.

* *A Manual of General Pathology*, page 378.

But it may be worth while to say that I do not use the term poison as a term of unqualified condemnation. It only means something capable of producing injury, not necessarily doing so. All metallic salts, nearly all drugs, and many substances used as food, are in this sense poisons; but we do not on that account deny their usefulness when properly employed. It would be as absurd to condemn alcohol as to condemn common table salt because a large dose of either of them may be fatal. But to pursue this subject further might be dangerous; I return, then, to the old track.

It is quite clear that alcohol is a functional poison of the narcotic class. Its action on the brain shows the gradations of stimulation, overaction, inhibited action, and actual narcosis. These effects, unless positively fatal, are transitory. But it is also clear that this is not the whole of its injurious effect; since, if the functional disturbance be often repeated, the brain itself will come in the end to be damaged. But it may be supposed this damage is caused by the excess or repetition of the functional disturbance. Such an explanation will not, however, apply. Some organs, such as peripheral nerves, are damaged, in which no functional disturbance from the immediate action of alcohol can be traced. Hence we conclude that alcohol is also a tissue poison, damaging the structure of the tissue elements. This effect is not seen after a single dose, even a fatal dose, at least so far as is known, but only after repeated action of the poison. When its action is perceptible, it is quite comparable to that of the so-called irritant, especially metallic poisons, such as lead, arsenic, antimony, &c., with phosphorus, and even mineral acids. It is now recognised that these substances, if absorbed, act on all or most tissues of the body which they reach in proportion to the degree of concentration in which they may be present, and to the susceptibility of the different parts. This is also true of alcohol. It is carried by the blood to all parts (having been detected in the brain and various organs), and acts

most powerfully in the first instance on the parts which it reaches with the least amount of dilution, that is the stomach and liver. In the second place, it acts on the nervous tissues as being more vulnerable than the rest. Again, the influence of concentration in relation to the tissue damage is seen in the fact that alcohol in a dilute form injures the tissues much less than the same amount in a concentrated form, though the narcotic effect may be the same.

Another law of tissue poisons is that they all have, within certain limits, the same action, or, at least, there are certain modes of action common to all. These common modes of action belonging to all tissue poisons I will endeavour to state, and then see whether alcohol acts in the same way.

The first effect of such poisons is seen on the more vulnerable or parenchymatous elements, namely, nerve-epithelium, muscle fibre. On these parts their action is essentially necrotic, producing, if in a low degree, parenchymatous degeneration: in a higher degree, actual necrosis, though if the injury be not too severe repair is possible. This is true of arsenic, antimony, sulphuric acid, and, with some modification, of phosphorus. I would submit that this is also true of alcohol, which produces degeneration, or ultimately necrosis, of mucous membrane of stomach, liver-cells, nerve-fibres, nerve-cells, and muscular fibres.

Another effect of all tissue poisons, if sufficiently concentrated, is to injure the blood-vessels, causing exudation and cell migration—that is, inflammation as generally understood. It is obvious that this is true of all irritant poisons. If chronic, this inflammation sometimes results in hyperplasia of connective tissue. I submit that concentrated alcohol acts on the stomach, for instance, to which it is directly applied in the same way, setting up acute inflammation. The action of alcohol, however, is never quite so intense as that of some metallic poisons, since it never produces suppuration, nor has it an actually corrosive action. Its continuous or chronic action is to produce

connective tissue hyperplasia, fibroid changes, or cirrhosis.

Besides these two modes of action, alcohol has one almost peculiar to itself—that of causing accumulation or infiltration of fat in various parts of the body, especially where such accumulation naturally takes place, as in liver, omentum, subcutaneous tissue. Phosphorus is like alcohol in this respect, and so is, to some extent, arsenic. This change may be called "steatosis." It is explained, apparently with reason, as due to deficient oxidation, or impeded cell respiration, the alcohol or phosphorus being oxidised in place of the fat which should be burnt up in the cell. I would ask, are there any objections to this explanation?

I would suggest the relations of fatty infiltration to true fatty degeneration as an interesting though difficult subject of inquiry and discussion. The difference in well-marked conditions is obvious. A liver-cell or connective tissue-cell loaded with fat may be healthy, while a fatty degenerated cell is one of which the protoplasm is already altered in structure. But is it not possible that accumulations of fat may destroy the cell in the end, and thus pass into degeneration? If the respiration of a cell is sufficiently impeded, will the cell die, as an individual does under the same circumstances? Since alcohol appears to cause true fatty degeneration of some parts, as well as more adipose accumulation in others, the question is particularly interesting here. This action of alcohol can hardly be called poisonous, since it may aid in nutrition.

To sum up. The action of alcohol on tissues or tissue elements is three-fold—(1) as a functional poison; (2) as a tissue poison or destructive; (3) as a checker of oxidation; and in these respects it may be paralleled by other substances called poisons, and by others which are generally considered innocuous. These views of the action of alcohol are put forward with the object of inviting criticism or correction. It is very probable that they may be in some respects one-sided or faulty.

I had intended to give some account of the morbid changes produced by administering alcohol to animals, but find that time will not permit.

MORBID CHANGES PRODUCED BY ALCOHOL IN VARIOUS ORGANS.

Since it is obviously impossible to speak of all the organs which may be altered, I shall confine my remarks to a few, especially the liver and the nervous system, taking the morbid changes in these parts as types of the effects produced in the organs generally.

Effects of Alcoholism as seen in the Liver.—It is generally recognised that one effect of alcohol is to produce accumulation of fat or steatosis in the liver. This change is produced especially by dilute forms of alcohol, and in those who are well fed. The explanation has already been suggested. Only one question occurs to me respecting this condition: Does it ever pass into cirrhosis? Are there not large livers, with a large amount of fat, which show commencing cirrhosis? Or does the fatty change in some way shield the liver tissues from the more serious and irritative action of the spirit? The accumulation of fat is, so far as it goes, evidence of the destruction of some alcohol, if the explanation given above be correct.

Cirrhosis of the Liver.—It would seem as if no pathological process were better known or explained in a more satisfactory way than this. It is generally accepted that concentrated forms of alcoholic drinks, brought into the stomach, are absorbed into the portal vein, and carried to the liver, where inflammation of the interstitial stroma is set up, by which new fibrous tissue is produced. In consequence of the pressure of this tissue, and its subsequent contraction, the liver cells are compressed and destroyed, and are found in various degrees of degeneration loaded with fat, yellow granules, and so on.

To this explanation I am inclined to demur. I would ask, Is a liver ever found with healthy hepatic cells and an inflamed stroma? In the very earliest stages of cirrhosis are not the

cells decidedly degenerated? Is it not more reasonable to suppose that the injurious action of alcohol is exerted simultaneously on both parts of the organ; and that, if so, the parenchymatous elements, being more vulnerable tissue, would suffer first? Dr. Lionel Beale, indeed, urged some years ago that the change is essentially atrophic, not inflammatory.

I am also led to raise this question by consideration of a certain very rare form of degeneration of the liver, which is really, I think, produced by alcohol, though the connection has not been recognised. I mean that called in England acute red atrophy. (In Germany the name "red atrophy" is often given to what we call the nutmeg liver.) It is generally admitted to be nearly allied to the acute yellow atrophy, but differs from it in other respects besides colour. The organ is much reduced in size; the liver cells, as in yellow atrophy, show advanced degeneration and necrosis. Other parts of the organ are of a deep red colour, with little or no liver tissue, and consist chiefly of connective tissue and capillaries deeply engorged, inflamed with infiltration of leucocytes, and showing new formation of fibrous tissue. This short description, founded on a paper by Dr. Moxon in our *Transactions*, and on the only case which I have seen, proves, I think, that the same changes are displayed in an acute form, as cirrhosis shows in a chronic form. The connection with alcohol is perfectly clear, though it was not brought out by Dr. Moxon, nor has it been insisted on in the other cases brought before the Society. We have three cases in all; Dr. Moxon's (vol. xxiii.), where two brandy bottles were found under the patient's pillow; Dr. Cayley's (vol. xxxiv.), in a drinker of spirits; and Dr. Carrington's (vol. xxxvi.), which occurred after hard drinking for six weeks. The last I had the opportunity of examining as a member of the Morbid Growths Committee, which gave it the same name as I have done. Dr. Cayley, indeed, suggested that the atrophic process supervened on a chronic cirrhosis; but taking the three cases together, it would seem that the paren-

chymatous and interstitial parts of the organ were concurrently affected; the former undergoing, as the usual law is, atrophy and necrosis; the latter showing ordinary inflammation. But if there was any difference in order of time, the parenchyma would be likely to suffer first. I suggest the same explanation for common cirrhosis, and shall return to the same point in speaking of the nervous system.

Another question of interest bearing on cirrhosis is why is it so comparatively rarely found in the bodies of drunkards. Peters found it in four or five cases only out of seventy persons who died from the excessive use of ardent spirits. What other factor is concurrent with alcohol in producing it? Is it ever set up by the action of any liquors other than distilled spirits or strong wine, such as sherry?

EFFECTS OF ALCOHOL ON THE NERVOUS SYSTEM.

While the functional disturbances produced by alcohol on the brain are the most familiar evidence of its action, and, when excessive, have long been recognised as the most deleterious of its results, the actual textural changes produced by it have only been demonstrated in comparatively recent times.

The demonstration of organic changes in the nervous system began, as was natural, with the brain, and with observation of alterations visible to the naked eye. I will first speak of changes in the meninges.

The dura mater has been very frequently observed to be thickened, the Pacchionian bodies largely developed. Vascular congestion has been frequently described, but the conditions immediately preceding death and the manner in which the necropsy is made influence so decidedly the amount of blood contained in this part that the observation has not any very great value. More rarely a special change of the dura mater has been described—namely, chronic pachymeningitis, sometimes in the form of the so-called pachymeningitis hæmorrhagica, or hæmatoma of the dura mater. This curious condition has been explained by Virchow as produced by a combina-

tion of exudative inflammation with hæmorrhage. It is certainly sometimes connected with atrophy of the brain. This is among the rarer results of alcoholic poisoning, though it is described by Lancereaux, Greenfield,* Magnan, and others, as occurring in cases of chronic alcoholism and delirium tremens, and is also found in chronic dementia and other cases in asylums. Without discussing fully the origin of this condition, I will only say that hæmorrhage into the arachnoid cavity is certainly the most important factor, and capable alone of producing the appearances in question, as is shown by such cases as that recorded by Dr. J. W. Ogle, where the immediate cause was injury in an alcoholic person.† Hæmorrhagic pachymeningitis has also been produced artificially in dogs by poisoning them with alcohol in even as short a time as four weeks.‡

The visceral arachnoid and pia mater must necessarily, for purposes of pathology, be considered together. Thickening and opacity are the most constant changes observed, but in certain cases there is much vascular congestion, with small patches of ecchymosis. But the one most frequent appearance in the sub-arachnoid spaces, as well as in the arachnoid cavity, and to a certain extent in the internal cavities of the brain, is excess of serum. This is so marked that those accustomed to *post-mortem* examinations would generally say that a drunkard's brain is a wet brain.

Now, it is hardly necessary to point out that a similar condition is very generally met with in the brains of old persons; it is a senile condition. And both in chronic alcoholism and in old age the cause of this accumulation of fluid is the same; namely, it comes from atrophy of the brain-substance. The convolutions look small,

the sulci deep, and in most cases the pia mater is easily removed.

If it be granted that atrophy of the brain is at least a common result of alcoholism, though not a distinctive one, it yet remains for consideration what the nature of the wasting process is, whether one of simple atrophy, or some special form of degeneration leading to diminution of size.

The answer to this appears to be that there is no special kind of degeneration. The nerve cells are sometimes said to be granular, but, in general, no change is described as at all characteristic of alcoholism. Some observers go so far as to say that the cortical gray matter is very little affected; and one (Wille) refers the degenerative changes almost entirely to the medullary substance. On these points we hope for information from those who have made cerebral pathology a special study.

In a few instances, however, more pronounced changes are met with in the cerebral cortex. The pia mater is adherent to the convolutions, portions of the gray matter being torn off with it. On microscopical examination, patches of degeneration and sclerosis are seen. The inner surface of the ventricles again presents a rough and granular appearance; sometimes with fibrous outgrowths. These are in fact the lesions found in the brain in cases of general paralysis or paralytic dementia.

The relation of chronic alcoholism to general paralysis is a difficult and abstruse question, on which different opinions have been expressed by different observers among those who have had large experience in such diseases. It is only in special practice or special institutions that such experience can be obtained. What I venture to say on this subject is therefore said rather in the way of suggestion.

That so called general paralysis, or paralytic dementia, not now a very uncommon disease, often has for one of its factors excessive indulgence in alcohol can hardly be disputed. But if I take the statistics of general paralysis on the one hand, I do not

* *Pathol. Trans.*, xxix, p. 1. The specimen is in the Museum of St. Thomas's Hospital.

† Ogle, *Pathol. Trans.*, vi, p. 5. Also Prescott Hewett, same vol., p. 10.

‡ Kremiansky and others, quoted in Magnan's *Alcoholism*, p. 15.

find any very large proportion of cases regarded as solely or mainly due to this cause; nor, on the other hand, among the sequelæ of final stages of chronic alcoholism, does general paralysis occupy a conspicuous place. The conclusion seems to be that general paralysis is distinct from chronic alcoholism, and that for the production of the former out of the latter some additional cause is necessary.

Such a cause I believe to be excessive functional strain. The three factors of general paralysis are alcohol, functional strain, and in many cases congenital incapacity to bear strain; in short, a disproportion between functional activity and power of resistance, especially in the higher cortical centres and the tracts connected with them. I emphasize this suggestion because it appears to confirm the conclusions arrived at on other grounds, that the effects of alcohol on the nervous system, and even on the brain, are independent of its functional effect on the nerve cells, but are those of a tissue-poison, acting directly on the protoplasm of various parts. At the same time it remains rather difficult to understand why alcohol so seldom produces inflammation or sclerosis in the brain, the organ which is most susceptible to its physiological effects.

The general subject of the relation of general paralysis to alcohol is one on which I hope we may receive more information from those whose field of observation in asylums has included many cases of each disease.

Changes in the Spinal Cord.—I now pass to the changes produced by, or ascribed to, alcohol in the spinal cord. These are not numerous, or frequently observed. Before the period of microscopical examination the spinal cord was universally said to be healthy in necropsies of alcoholic persons. Of late years a few cases have been recorded in which there was sclerosis or degeneration of certain tracts, especially the posterior columns or posterior parts of the lateral column, (Magnan).

When attention was drawn to the occurrence of paralysis, especially in the form of paraplegia, in chronic

alcoholism, it was thought naturally that this would be due to disease of the spinal cord, but subsequent research has not quite confirmed this expectation. More constant morbid changes have been found in nerves. Nevertheless, in a certain number of cases, alterations have been detected in both. When the alcoholism has passed into paralytic dementia, changes in the cord have been found accompanying the changes before described in the brain. At the same time we have cases (I speak from my own experience) of what is thought to be acute myelitis due to excessive drinking. Are there any records of post-mortem appearances in such cases?

Changes in the Peripheral Nerves.—Although the actual changes produced by alcohol in the nerves have only lately been observed, the symptoms now referred to them have been longer known, though referred originally to a lesion of the spinal cord. Dr. Wilks was, I think, the first in this country to give a clear description of these symptoms under the name of alcoholic paralysis.

Here I must venture to depart a little from the plan laid down, and say a word or two about the clinical aspect of the nervous disease, especially as it is as yet not universally recognised by the profession.

The earliest symptoms are disturbances of sensation, and, in the first place, hyperæsthesia. There may be peculiar sensation (paræsthesia), such as numbness, tingling, or feeling of pins and needles, or burning, and sensations of boring and stretching. There may be actual pain, but not usually continuous. Later on, all these disturbances give place to anæsthesia, which is often observed to be present in particular areas. Difficulty in locating sensation and retardation in the transmission of sensation have also been described. All these symptoms are evidently referable to cutaneous nerves, but the deeper nerve trunks and muscles are often tender on pressure. The special senses are very rarely affected. If we consider the phenomena relating to muscles, we find a very prominent symptom,

and usually an early one, though sometimes absent, is inco-ordination and loss of muscular sense. The knee-jerk is lost at an early stage, and Dr. Gowers refers this phenomenon, apparently with justice, to loss of the muscular sense.

All these phenomena constitute the condition of alcoholic ataxia, which may come on before there is actual paralysis of motion, and may remain, as I can state from personal observation, when actual paralysis, once present, has passed away, though it is probably always accompanied by muscular weakness. It is distinguished from *tabes dorsalis*, or what is called locomotor ataxia, by several characters, especially by absence of all symptoms connected with the pupil of the eye or with the sphincters. Next, if the affection continue and become more severe, we have the stage of actual motor paralysis. In this there will be entire loss of motor power in the muscles, sometimes quite local, sometimes in all four limbs. The paralysed muscles soon lose faradic irritability, and become impaired in galvanic irritability.

Now I think it is quite clear that the symptoms, of which the above is a bare outline, might be referred to injury of peripheral nerves.

Take first the case of the cutaneous nerves, the function of which is mainly efferent or sensory. The first result of slight injury to a nervous structure, if it do not pass a certain degree of intensity, is to cause its substance to be more easily decomposed—that is, to produce an apparent, or, at least, temporary, exaltation of function, which, in a sensory organ, is expressed as hyperæsthesia. A continuance or higher degree of the same injury will produce total loss of conducting power or anæsthesia. Whether this injury affects nerve endings, or nerve trunks, or both, is a question not yet entirely decided. It is evident that paresthesia or irregular sensations may also result from injury to sensory nerves.

Now let us consider the case of the muscular nerves (a term which I prefer to that of motor nerves, at least for the present purpose). These nerves

have a twofold conducting power: one efferent, transmitting motor impulses: another afferent, transmitting the muscular sense. The sensory or afferent function is assigned to special fibres, which are said to have a special origin. This statement my knowledge is quite inadequate to enable me either to confirm or reject; but for the present purpose it is enough that there are fibres having this function. It would seem as if these fibres were affected by a slighter form of injury than that which is necessary to cause actual motor paralysis. At all events, an injury of these fibres would produce all the symptoms of ataxia, and an injury of the efferent motor fibres would cause paralysis.

Certain other symptoms, which sometimes complicate alcoholic paralysis, are explainable by similar injury of other nerves. One is acceleration of the pulse. This is very notable in many cases. In one of my own, which ended in recovery, the pulse was for a long time not less than 140, independently of occasional fever, and still more rapid pulses have been observed. In a case of a confirmed drinker, whose pulse was usually about 180, and who died of thrombosis of the portal and mesenteric veins, with hardened liver, I found after death nothing to account for the rapid action of the heart. It is clear that a slight degree of injury to the vagus nerve would, in the absence of other causes, be sufficient to account for this acceleration of the heart; but when this observation was made the connection was not thought of.* Paralysis of the diaphragm, from affection of the phrenic nerve, may also occur.

It would not be enough to show that nerve changes would account for these symptoms. It must be shown that no other cause accounts for them, and that the nerve changes actually exist. The only other conceivable cause of all the symptoms described would be an extensive lesion of the spinal cord, affecting both motor and sensory tracts. Such a lesion is not known to occur in these cases, and

* *Path. Trans.*, xxi. 228.

has in many cases been proved not to be present. Moreover, the supposed nerve lesions have been, in many instances, found in the mixed nerves, including both cutaneous and muscle nerves. In one instance, at least, similar changes have been detected in the trunk of the vagus (Finlay) when the pulse was 160. It is to Lancereaux that the credit belongs both of suggesting this explanation and of establishing its truth.

I will not take up the time of the Society or anticipate the remarks of those who are to follow, and are more competent than I am to speak on this matter, by quoting observations of peripheral neuritis in cases of alcoholic paralysis; but I will refer to those published by Lancereaux, Reginald Thompson, Dreschfeld, Duckworth, Finlay, and others in various publications. More especially in the *Transactions* of our own Society, Dr. Hadden (vols. xxxvi. and xxxviii.), Dr. Hale White (vol. xxvii.), and Dr. Sharkey (this year) have described specimens having the same significance. I will only venture to speak of one point in the pathology of what is called neuritis, and this with reference to other forms of the same lesion, such as diphtheritic and the various toxic forms. The changes described in the nerves thus affected come under the heads parenchymatous and interstitial. The first include cloudy or granular appearance of the nerve fibres, segmentation of the myeline and collection of it in round and oval masses, sometimes absence of the axis-cylinder, and other similar changes; in fact all the evidence of degeneration, ending in necrosis.

The interstitial changes are seen in the perineurium or endoneurium, either diffused, or mainly external. These tissues may show an increase in the number of nuclei, or infiltration with leucocytes, and are generally thickened. In some cases actual increase of connective tissue has been described. These changes are what are usually described as inflammation leading to hyperplasia.

Very generally, both these changes are found together, but sometimes one

group of changes predominates, sometimes the other; and thus the lesion is sometimes described as degeneration, sometimes as inflammation, and there has been a sort of controversy as to by which name it should be called, and which should be regarded as the original or primary change. I would submit that the parenchymatous and interstitial lesions are both produced by the direct action of alcohol, and illustrate the general law that when a toxic or injurious agent affects a mixed organ of the body, it is likely to produce degeneration or necrosis of the parenchymatous elements (nerve, muscle-fibre, epithelium), and what is generally called inflammation (either of the constructive or suppurative form) in the connective tissue, just as in the liver. This does not exclude the possibility of there being a parenchymatous neuritis, such as has been observed in experiments on animals by Ranvier and others in which there would be formation of new nerve fibres. But as the nerves have never been removed during life from cases recovering, but only after death from fatal cases, in which there was presumably no repair, the nerve fibres show pure degeneration or necrosis.

It is also to be remembered that the change found in certain parts of the nerves may be a secondary degeneration, caused by interruption of the nervous currents by lesion of the nerve at another point. But when interstitial change and nerve degeneration are present, it is not necessary to suppose that the nerve fibres suffer secondarily, being compressed by the hyperplastic connective tissue. On the contrary, there are instances in which the nerve degeneration must be the primary change, and the connective tissue change a consequence of it. For instance, this must be the case in the so-called secondary degeneration of conducting tracts in the spinal cord or nerves; in consequence of injury to the ganglionic tissue with which they are connected. It is clear that the break of communication will at first affect only the nerve fibres, and not the connective tissue sur-

rounding them. Changes in this tissue, that is to say, sclerosis, perineuritis, or interstitial neuritis, must therefore be a consequence of the nerve atrophy. How this leads to connective tissue proliferation is a difficult question. But I have elsewhere attempted to show that it may be partly a consequence of the diminished resistance which favours overgrowth of the tissue which remains; and secondly, that when the nerve fibres are dead, the connective tissue deals with them as with a foreign body. It tends to form a barrier of fibrous tissue around them as if to encapsulate them.

In ordinary neuritis we could only prove which was the initial stage of the disease by examining specimens at different stages, which has not been done, so far as I know. Hence, since we do not know the necessary order of the changes, it is more reasonable, on the whole, to regard them as simultaneous results of the action of alcohol, and to speak of the whole process as alcoholic neuritis.

I can only just allude to the remarkable fact that similar nerve changes have been demonstrated in chronic arsenic poisoning, in lead poisoning, in paralysis from bisulphide of carbon, and in the disease called kalke, while there is great reason to think that the nerve changes of diphtheria and other specific diseases are due to the same morbid process. All these will be forms of multiple peripheral neuritis.

Changes in Other Organs.—I have chosen the liver and the nervous system as typical instances of the injurious effects of alcohol on tissues; and there would be no time to speak of other organs in the same way. I can only, therefore, briefly mention what appear to be the most important points.

With regard to diseases of the kidney, one cannot but feel that the connection of different forms of Bright's disease with drinking requires further elucidation. The general belief in the profession certainly is, or was, that drinking to excess is a rather frequent cause of this disease. But Dr. Dickinson's observations and statistics tell so strongly against this view that

further observations are needed if it is to be maintained.

The relation of alcoholism to diseases of the generative organs is a very interesting though little studied subject. One of the oldest beliefs respecting the effects of excessive drinking is that such habits diminish fertility in both sexes, but especially in the male. The Rev. Stephen Hales, in the eighteenth century, even sought to show that the natural increase of the population of London was seriously lessened by the use of distilled spirits. The number of christenings (taken as corresponding to births) in London fell off from 19,370 in 1724 to an average of 14,320 in the three years preceding 1750. Whether these statistics rest on a sound basis I cannot say, but statements to the same effect have often been made. It is also stated that procreation, when one or both parents are inebriated, results in the birth of idiotic or deformed children, and Dr. Langdon Down has brought some such cases before the Society. It has never been shown whether this depends on any organic change in the testicles or the semen, or on the temporary inebriation. A few observations have been made on the condition of the male generative organs by Lancereaux and others. Corresponding conditions in the female sex would, there is every reason to believe, be equally injurious to the offspring. Little positive information has, however, been collected as to the state of the generative organs in female drinkers. Dr. Matthews Duncan's able paper on this subject in the *Edinburgh Medical Journal*, April, 1888, probably contains all that there is at present to say.

The organs of respiration appear, from clinical observation, to be affected by alcoholism. Certainly we often meet with laryngeal and bronchial catarrhs which are chronic and obstinate, and with great probability referred to the direct action of alcohol. In connection with this it may be worth while to recall the fact that alcohol is actually excreted by the lungs, probably partly in an oxidised state, and may therefore have a

directly toxic action. Further, arsenic, if given in long courses, seems to have a tendency to produce bronchial catarrh; and cantharidine injected experimentally under the skin of rabbits has produced acute laryngitis. *Post-mortem* observations have shown nothing definite on this point.

With regard to the influence of alcohol on the production of tubercle, the utmost divergence, and indeed contradictory opposition, of opinion prevails. Huss found tubercular phthisis to be rare in drunkards, and that has been the general conclusion drawn from *post-mortem* observations. It has even been thought that drinking freely checks the progress of phthisis, but of this I can find little evidence. On the other hand, the more general impression is that alcoholism is a frequent cause of consumption. On this disputed point we must appeal to the methodised experience of those who have special opportunities of observation. The only new fact in the discussion is, I think, the undoubted frequency of tubercular disease in the subjects of alcoholic paralysis.

Passing over many important and interesting subjects, I will only say a word or two on the relation of chronic alcoholism to the skin. Most of us are familiar with the kind of skin generally associated with advanced alcoholism — soft, smooth, satiny, generally pale, and sometimes waxy-looking. It appears to depend partly upon accumulation of adipose tissue under the skin, partly, perhaps, upon wasting of the skin itself, or of the epidermis. It is very much like the senile condition of skin. It is stated by Lancereaux to accompany fatty degeneration of the liver, or rather steatosis. I am sorry, however, I have no specimens of skin from alcoholic subjects. The association of chronic

hyperæmia of the nose or other parts of the face, and of acne rosacea, with drinking habits, is too well-known to need mention, except the expression of a hint that the frequency of such association has been exaggerated. There is only one other skin affection, so far as I know, which has been definitely attributed to the effects of drinking. It is a peculiar brown pigmentation, mottled and variegated, which has been described as occurring in alcoholic persons. It is singular that we had one case at St. Thomas's Hospital of a patient dying of cirrhosis of the liver combined with tuberculosis, in whom a piebald mottled appearance is described as having been present on the genitals. It appeared from the description to have been like the so-called leucoderma, consisting of white patches in the midst of skin showing excess of pigment; but it would be premature, I think, to conclude from a few coincidences that it was produced by alcoholism, since a similar condition certainly often arises without any such cause.

Eczema, psoriasis, and various other diseases have been ascribed, with little ground, to the effects of drinking. The only fact I believe to be established is that drinking habits make such diseases inveterate, and sometimes quite incurable. I have seen eczema in an alcoholic subject pass into general exfoliative dermatitis, on which treatment made absolutely no impression.

But time warns me, and I conclude, to make way for those members who are, I doubt not, going to bring before us facts and materials which will, we may hope, materially advance our knowledge of this difficult and important subject. — *British Medical Journal*.

The discussion initiated by Dr. Payne was carried on by Dr. George Harley, Dr. Lionel Beale, Dr. Stephen Mackenzie, and Dr. Mott; and was continued by Dr. Dickinson, Dr. Buzzard, Dr. Savage, Dr. G. N. Pitt, Dr. Finlay, and Dr. Sharkey on the 18th December, when a further adjournment took place till 15th January.

PILOCARPIN IN ACUTE ALCOHOLISM.*

By E. A. NEELY, M.D., *Memphis, Tenn.*

REVOLUTIONARY discoveries only brighten medical literature at intervals of long periods, but this does not signify a cyclic quiescence in medical science. Constantly and unceasingly the profession is engaged in testing the accuracy and value of known truths; in extending the scope and usefulness of existing measures and means, developing and perfecting them for utilisation at the bedside. My contribution, therefore, is not pretentious beyond offering for your consideration a few original facts, if they be original, illustrating the value of pilocarpin in the treatment of acute alcoholism.

This, I believe, is a new application for a remedy whose intrinsic worth has already been unassailably established in the treatment of other diseases. I was led to employ it in this condition from observing its good effects in the case of a patient to whom I was hastily summoned during the past summer. I arrived to find a well-developed man in a most intense maniacal delirium, the efforts of half a dozen men being required to keep him on the bed, and from doing violence to himself and those about him. I was told he had sunstroke. An examination was impossible. At this juncture several other physicians arrived, having been called in the excitement of the moment. These, like myself, accepted the popular diagnosis, and one of them having treated several cases of sunstroke with it, suggested that we give him a good dose of pilocarpin. We gave him a half-grain simultaneously. In thirty minutes he was perfectly limp, his skin was cool and covered with profuse perspiration, the heart's action was increased and tension diminished, distressing vomiting occurred and his intellect cleared. With the cessation of the nausea and vomiting he sank into a profound slumber, from which he awoke some fourteen hours later much

refreshed and perfectly rational. I then learned that his sunstroke was nothing more than a well-marked case of alcoholic delirium. Since then I have used pilocarpin in all cases of alcoholic poisoning coming under my care with unvarying satisfaction.

The first effect noticed after the subcutaneous injection of a physiological dose of the muriate of pilocarpin is a flushing of the face and neck. Almost simultaneously a profuse perspiration occurs, saliva in great quantities is poured out, the heart's action is increased from ten to twenty beats per minute, but its tension is greatly lowered, and the temperature falls from 37° to 35° . Nausea and vomiting nearly always follow its administration, and occasionally a serous diarrhoea. Much prostration may occur, especially if large doses be given, hence the necessity that the indications for its employment be well defined and appreciated. While it should be administered with care, I can find, in the literature at hand, no record of a death resulting from its use. Several instances of poisoning by its ingestion are recorded, but these were promptly relieved by subcutaneous injections of atropine, its physiological antagonist.

That I may more clearly outline its limit of usefulness in alcoholic poisoning, and at the same time illustrate the good results I have derived from its administration, I extract from my note-book the records of six of the nine cases treated with the remedy, the remainder, because of circumstances and conditions, not being fair tests.

CASE I.—August 3. H., male, æt. 31, well developed. Has drunk moderately for several years, with occasional excesses. For several days has been drinking heavily. At four o'clock in the afternoon fell on the street, and was carried home. When I saw him there an hour later he was raving with a maniacal delirium, threatening to do violence to himself and others, from

* Read before the Memphis Medical Society, December 6, 1887.

which he was restrained by force. Pulse full and bounding. Face flushed, and conjunctivæ congested. Pilocarpin, gr. ss., subcutaneously. In thirty minutes he was completely relaxed. Perspiration copious. Vomiting occurred, with great retching. Bowels moved several times. Arterial tension reduced and pulse rate increased. After two hours he was feeling comparatively comfortable, and was perfectly rational. Ordered quinine, grs. iii.; hydr. chlor. mit. gr. ss.; podophyllin, gr. 1-20; morph. mur., gr. $\frac{1}{8}$, m., every three hours during night. Next day felt comfortable, except a general muscular soreness, No elevation of temperature. Appetite returning. Discharged.

CASE II. October 9. J. P., æt. 46, illy developed. Has drunk habitually for years, but never to excess. While at work on above date was seized with very painful cramping of the muscles of right leg. This condition soon extended to all his extremities, and when I saw him he was suffering excruciatingly. Was told he had been drinking immoderately. His face was flushed; conjunctivæ congested; pulse rapid and arterial tension great; bowels constipated; tongue coated and flabby, and his temperature 100.5°. I gave pilocarpin, gr. 1-5, at once. In two hours he was completely relieved and sleeping. I ordered calomel, gr. ss., every two hours during night. On the following day I found his temperature 101°, but comfortable. Ordered salicylate of ammonium, grs. viii., every three hours. Under its influence his fever subsided in twenty-four hours, his appetite returned, and he convalesced rapidly.

CASE III. October 22. R. B., æt. 36, male and very muscular. Accustomed to the daily use of alcoholic stimulants for twelve or thirteen years. Occasionally got on a spree, which always terminated in an acute gastritis. Jovial companions at the races tempted him into another one of these. When I saw him he was suffering most intensely with muscular cramping of all the extremities. His face was of a livid hue; conjunctivæ congested; eyes prominent, and a wild expression

of countenance; tongue heavily coated, heart's action slow, and arterial tension very high; had vomited several times, and nausea constant. I gave him pilocarpin, gr. 1-5, at once. In twenty minutes he was relaxed, and his distressing symptoms relieved. I then ordered calomel and ipecac., aa gr. ss., every two hours. Six hours later he was comfortable, but sleepless. At his solicitation I gave him morph. sul., gr. $\frac{1}{4}$, hypodermically, under the influence of which he slept during the entire night, and was able to take some nourishment with relish the next day. He convalesced nicely for several days, when a jaundice developed, which yielded readily to the usual remedies.

CASES IV. AND VI. October 19 and November 17. These two cases occurred in the same individual, a man of studious habits and of exceptional intelligence, but one who cannot refrain from frequent speers. H. E., male, æt. 41. On both these occasions I found him in a high state of nervous excitement; face flushed and wearing a weary, expectant expression. The slightest noise startled him; sleep was unknown; tongue coated; bowels constipated; respiration somewhat hurried; pulse ranging from 90 to 100, and arterial tension great; no desire for food whatever. In each instance three injections pilocarpin, 1-5 grain each, repeated at intervals of three hours, relieved all the nervous symptoms. Insomnia, however, persisted, and necessitated morph. sul., gr. $\frac{1}{3}$, subcutaneously, for its relief. This was followed by quin. sul., grs. iii.; calomel, gr. ss., every three hours till bowels acted. This constituted treatment in both cases. Convalescence in each in from thirty-six to forty-eight hours.

CASE V. October 23. J. S. McL., male, æt. 49, railroad engineer. In early manhood drank excessively. Rarely takes a drink now, but when he does always winds up with delirium tremens. Began to drink a week ago. I found him exceedingly nervous at 4 p.m., face flushed, an occasional muscular spasm, tongue coated, bowels constipated, respiration hurried, pulse slow, full and bounding; had slept none in

over forty-eight hours, and food was repulsive. Gave pilocarpin, gr. 1-5, and in thirty minutes left him comparatively comfortable. At 9 p.m., his symptoms not being completely relieved, I repeated the dose, combined with morph. sul., gr. $\frac{1}{3}$, and ordered calomel, pv. ipecac aa, gr. ss.; pv. Doverii, gr. ii, every three hours. The following day I found him much improved, having slept fairly during the night, and taken a plate of hot soup at breakfast. A saline to move his bowels, and a $\frac{1}{4}$ gr. morph. sul. at bedtime to guarantee a sleep, terminated the treatment. The next day he felt good, and the next returned to his work.

It will be observed that all of the cases in which I have used the remedy, have been those characterised by more or less nervous manifestations. It is in this class, too, that it is particularly valuable. It may be employed in the ordinary or typical forms before the stage of oppression has occurred, the maniacal and the convulsive form, and in all forms of chronic alcoholism marked by psychical derangements. To generalise, it may be used in all cases exhibiting exaltation of nerve force, or tension of the circulatory system and derangement of the secretory system. On the other hand, it is contraindicated in all cases where depression exists, or is about to occur.

The effect of the excessive use of alcoholic liquors, apart from their transient influences, is to check the function of secretion, thus causing retention in the blood products of waste of the nitrogenous elements, which, reacting upon the nervous system, gives rise to those phenomena so familiar to us in all such cases.

In pilocarpin we have a powerful motor depressant. It relaxes muscular tonus, lowers vascular tension, and excites to a wonderful extent glandular action, thus hastening elimination of waste products, removing in doing so the sources of nerve irritability. This accomplished, the debauchee, exhausted by vigils, and a lack of proper and sufficient nourishment, sinks into a refreshing and re-

cuperating slumber. If not, his system has been brought to that condition when this may be encouraged by the administration of morphia without any apprehension as to its evil consequences. The portal circulation may now be acted upon, and convalescence established in a period of time infinitely shorter than from any other plan of treatment with which I am familiar. Theoretically it suggests itself to our intelligence as a most rational treatment. In my experience it has practically stood the test.

I do not advance it as an agent to be solely relied upon in alcoholism. Its special value is at the beginning of the treatment, and its action must be supplemented by that of other remedies, as the exigencies of the case demands.

This may seem a limited field, but is indeed a large one, for it accomplishes for us in a few minutes what by older methods of treatment took us days to effect. The patient is tided over that period of high nervous excitement, restless insomnia and intolerable nausea. He is excused from the possible supervention of delirium and all its horrid phenomena, and put at once upon the high road to a speedy recovery. This is sufficient to commend it as a medicament of inestimable benefit in these cases, provided, of course, that my experience is corroborated by the profession.

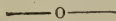
To obtain the best results, it is necessary to administer the drug in doses sufficiently large to produce its full physiological effects at once. It should be given with full confidence in the indications and its power to meet them. Only in this way will it realise our expectations. Small but repeated doses accomplish no good whatever. The symptoms demand an aggressive remedy. To temporise with them may possibly expose the patient to serious results; at best, will only be a useless expense of time.

My experience leads me to conclude (1) that in pilocarpin we possess an agent of great value in acute alcoholism. (2) That because of its motor depressant and paralytant effects we can act promptly and decisively. (3)

With it we can shorten the duration of an attack, and establish convalescence much more quickly than with any other remedy at our command.

(4) That we can always rely upon

it. (5) That its minuteness of dose renders its administration an easy act, and (6) when judiciously employed is perfectly safe. — *Mississippi Valley Medical Monthly*.



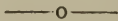
MEDICAL SECRETS.

THERE is no class in the community who know so many of the secrets of the prison-house inhabited by drinking people as our medical men, but it is seldom that we receive from any member of the profession a hint of the revelations he could make if his lips were not sealed by an honourable sense of duty to his patients. Occasionally, however, we have an incidental glimpse at a case which serves to throw light upon a dark and dismal phase of humanity. One of these appeared last week (September 15) in the *British Medical Journal*, where a medical correspondent asked for advice in regard to the following case :—

“Some years ago I attended a young lady of means, who was suffering from over-indulgence in stimulants. The friends were informed by me of the cause of her illness, and thereafter took steps to prevent a repetition of the abuse. This not being to the mind of the young lady, she left home, and resided with some friends who were more indulgent. To make a long story short, she died of delirium tremens this year, and has left her whole property to the strangers with whom she made her home. To-day I am sent for by the solicitor of the young lady's relations, who informs me that an attempt is being made to dispute the will, and requests to precognose me anent my knowledge of the deceased's habits. Am I justified in telling what I know, the party con-

cerned being dead? Should I refuse to be precognosed, and compel them to summon me?”

The reply of the editor of the *Journal* was to the effect that a practitioner may be compelled when in the witness-box to say what he knows of a patient's health or habits, and that in the present case he sees no special reason for refusing information to the solicitor. But we are less concerned about the legal bearings of the case referred to than with the illustration it furnishes of the prevalence of a too common practice in regard to victims of drinking whose means are sufficient to excite the cupidity of unscrupulous persons who do not hesitate to earn money by conniving at the ruin of others. The case also forcibly illustrates one of the peculiar difficulties of conscientious medical practitioners, who frequently sacrifice their own pecuniary interests without the consolation of knowing that they have in the slightest degree benefited their patients; the only result of their faithfulness being, as in the case quoted, a more speedy descent into the valley of destruction, under the care of less scrupulous advisers. Medical men who honestly endeavour to wean their patients from drinking habits deserve the respect and sympathy of temperance reformers, and should, as far as possible, receive their earnest support. — *Temperance Record*.



TOXICITY OF ALCOHOL.

IN reporting to the *Lancet* (October 13) the proceedings of the Academy of Medicine, a Paris correspondent states that Dr. Laborde made a communication on "Alcohol and its Toxicity." He referred particularly to the toxic substances contained in wine, brandy, and liqueurs. He remarked that the question of alcoholism is becoming every day more and more important. At the present time it may be estimated that the maladies due to alcoholic drinks constitute one-fourth at least of the diseases observed in France. The author studied the subject from a scientific point of view only, and carried out researches with the specimens obtained from the Municipal Laboratory, assisted by Dr. Magnan, well known for his researches with the essence of absinthe. It is in the manufacture of "bouquets," which give the wines their flavour, that the adulterations are practised. They are known in commerce under the terms of "huiles de vin Francaises," and "huiles de vin Allemandes;" the latter are mostly employed because they are more active. MM. Laborde and Magnan studied the toxicity of these substances by injecting them into the veins of dogs. They caused the death of these animals after having produced symptoms of excitement followed by nervous prostration and great difficulty of respiration. These substances are toxic in an extreme degree. Even alcohols are adulterated with odoriferous substances which mask the alcohols of bad flavour. Dr. Laborde had particularly studied furfural, the odour of which is very agreeable, being similar to that of cinnamon or bitter almonds. The intravenous injection of furfural produces in a dog an attack of epilepsy and then kills it. Liqueurs are also adulterated with analogous substances. The salicylate of aldehyde is substituted for the essence of the "queen of

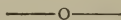
the meadows." It is found in vermouth, in bitters, and in whisky. It is a colourless liquid, reddening when exposed to the air, and is of a very agreeable aromatic odour. Like furfural, it kills dogs after having produced epileptiform attacks. As regards the salicylate of methyl, which is substituted for the essence of wintergreen, it does not cause epileptic fits, but it produces rigidity and trembling, which also lead to death. Hence Dr. Magnan now recognises that divers adulterated alcoholic drinks can produce epilepsy as well as absinthe, and it must be admitted that a still greater number have a baneful action on the nervous system.

At a subsequent meeting of the Academy of Medicine M. Laborde resumed the reading of his paper on the above subject, which he had begun on the 2nd October. The trade manufactured and offered for public consumption, in the largest extent possible, products which were eminently toxic and dangerous, the more dangerous as they were hidden under the alluring mask of an agreeable aroma. Among these were whisky, gin, sherry, brandy, kirsch, rum, kummel, &c., manufactured with essence of bouquet. We are, then, he said, in termination, face to face with a general permanent attempt on the public health, an attempt which was particularly criminal, at the same time that it implies on the part of those guilty educated premeditation; for it speculates in one of the most natural and most imperious necessities of alimentation. Do not the principles of social defence impose themselves here in their most absolute application? While the public powers will not let themselves regard the matter from this point of view the dominant question of social hygiene will not have received a veritable and efficacious solution.

THE STRYCHNINE CURE FOR INEBRIETY.

THE inordinate crave for intoxicants seems at last to be in a bad way, and, if we can rely on various emphatic declarations, to be in danger of extinction. As if the absolute cure of the "drink curse" by vegetarianism were not enough, the official organ of an influential temperance organisation gravely states, in speaking of the hypodermic injection of strychnine, that nothing more simple could have been discovered, nor anything so absolutely removed from any risk to health. This "simple and safe" cure is further described as a daily injection subcutaneously of five drops of a solution of one grain of strychnine in 200 drops of water. It is puzzling to understand why there should be a daily administration, as after the very first injection the inebriate is depicted as regarding intoxicating liquors with positive aversion. After this wondrous discovery, surely the next step must be the "happy despatch" of the Inebriates Legislative Committee of the Association, the immediate repeal of the Inebriates Acts, the disbandment of all our abstinence and prohibition societies, and absolutely free and unrestricted manufacture and sale of inebriating drinks. All that will be necessary will be the arming of missionaries, district visitors, and police-

men, with hypodermic syringes and a supply of the "simple and safe cure," so that, on anyone showing the slightest symptom of inordinate alcoholic indulgence, the subcutaneous strychnic panacea may be administered, and a positive distaste for the seductive fluids be immediately engendered. We trust that the true friends of temperance will take our advice in good part when we warn them against all cures, antidotes, and specifics warranted to cure and prevent inebriety or to destroy the drink crave. Were strychnine an efficient antidote to alcohol (which it is not, though it has often been useful in the therapeutic treatment of alcoholism), the popular practice of strychnine auto-injection would be but an added evil and danger, for few lovers of liquor would care to go about without so potent a talisman against the perils of inebriate excess. The administration of powerful medicinal poisons ought to be limited to duly qualified medical practitioners, and we cannot be too emphatic in warning the non-medical community of the very great risk involved in the administration of poisonous therapeutic remedies by the non-medical clergy and laity.—*British Medical Journal*.



A BUDGET OF ALCOHOLISM.

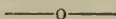
M. ROUCHARD has set himself the task of estimating the effects of the use of alcohol upon the French people, and he has succeeded in drawing up a budget which assumes the following proportions:—The estimated cost of the alcoholic liquors consumed is 126,298,354 francs. The disposal of so much money in drink, of course, would involve the expenditure of a large amount of time, and his figures show that 1,340,147,500 days of work

were lost in consequence of the attraction of drinking. But alcohol cannot be taken in quantities without producing more or less the effects of drunkenness and its attendant troubles; he has therefore estimated that the cost of treatment and its effects, coupled with the loss entailed by an enforced idleness, amounts to 70,842,000 francs. In the next place he proceeds to show that alcohol has a direct influence upon the mortality

returns; persons in a condition of ebriety are not only dangerous to themselves, but a source of danger to others. Under the head, then, of suicidal acts and accidental deaths, he has found that 4,911,000 persons lost their lives for which the habit of drinking was directly responsible. Again, drunkenness, as is well known, leads to crime, and the punishment of crime is a large source of expense to a country. In following out this inquiry, the author ascertained that the cost of dealing judicially with those persons whose crimes were the result of drinking amounted to 8,894,000 francs. These figures will probably be made the most of by the advocates of temperance, and without doubt this novel budget will largely be of

assistance in proving the case against the use of alcohol. We are not let into the secret in regard to the method which the author adopted for obtaining his statistics, but, assuming that the latter are trustworthy, a truly alarming state of things is disclosed which can only make thinking persons pause and wonder how it was that such a potent source of evil as alcohol was ever permitted to form one of this "world's goods."—*Medical Press.*

A French Senatorial Committee strongly recommends the abolition of private distillation and the prohibition of the sale of all spirituous liquors which are dangerous to health, and insists that all alcoholic products shall pass through rectifying establishments.



ALCOHOLIC REMEDIES IN TYPHOID FEVER.

By Dr. N. S. DAVIS, *Chicago.*

A LEADING article in the *Medical News* of December 24, 1887, in referring to "an outline of the modes of treatment in typhoid fever pursued at twelve of the chief hospitals of this country," says:—"The use of alcohol is recommended by all the writers, and we have, as yet, no substitute for it in the progressive asthenia of the disease." Before knowing how much value can be awarded to this apparently united testimony in favour of alcohol in typhoid fever, it would be necessary to know how many cases of the fever any one or all of the writers alluded to have actually treated without alcohol, that they might have a fair basis of comparison of the results. We have tried the experiment of treating typhoid fever and all other general fevers without using alcoholic remedies, both in hospital and private practice for thirty years, and have found no difficulty in finding better remedies for counteracting the asthenia of this fever, and obtaining a higher ratio of recoveries than has

ever been obtained with its use. With iodine as a general alterant and anti-septic to counteract the molecular degeneration in the tissues and the blood, and the choice of cardiac and vaso-motor tonics from the class of remedies represented by digitalis, coffee, tea, strychnia, strophanthus, carbonate ammonia, camphor, &c., according to the special symptoms of each case, and vigilant attention to the local complications that are in many cases more dangerous to the patient than the general disease, with an equally vigilant attention to the proper administration of simple nourishment and pure air, we have no place or need for the use of alcohol as a remedy in these cases. And of a considerable number of intelligent and active practitioners who have tried the same experiment, though for a less number of years, I have not yet found one who was not fully satisfied with the result.—*Journal of American Medical Association.*

A FRENCH PRIZE ESSAY ON ALCOHOL.

L'Alcoolisme Etude Médico-Sociale. By Dr. E. HONIN. Paris: Octave Doin.—In this remarkable work, which obtained for the author the first prize of the Société Française de Tempérance, Dr. Monin has endeavoured to expose the dangers and disorders produced by alcoholic drinks, not only in those who indulge in them, but also in their descendants. He refers also to the action of alcohol on the different races and professions, soldiers, women, children, &c. It is a complete dissertation on the subject of which it treats. Dr. Monin, who is a prolific writer, has written this work in such a way that it will be found interesting and comprehensible even by those who have not received a scientific education. The work opens with a most interesting preface from the pen of Dr. Dujardin-Beaumetz, whose cogent remarks may be considered worthy of notice here. "It may be said that, according as civilisation

advances, man seeks in drunkenness a compensation for, and forgetfulness of, the annoyances and sorrows which result from the daily struggles of life. But alcohol destroys the body as well as the mind. If the law should be pitiless for those poisoners of the working classes, it should also protect and favour the use of healthy drinks. Wine is not useless, it is a tonic drink; and France, which possesses renowned vineyards, cannot, like our neighbours of the other side of the Channel, preach absolute abstinence from alcoholic drinks. What should be combated and repressed is the abuse of these drinks and their adulteration. This is the doctrine that the Société Française de Tempérance has always upheld." The last chapter contains some philosophical and economical views, as well as remarks on the treatment of alcoholism, which will be found both interesting and useful.—*Lancet*, Oct. 27.

 INHERITED ALCOHOLISM.

In a thesis on inherited alcoholism, recently read to the French Academy of Medicine, Dr. Combemale commences with the study of hereditary transmission, "which in conjunction with the law of adaptation, explains the greater number of physical or psychical, physiological or pathological facts, met with in the study of the generation of individuals, families, races, and species." The author then sums up the physiological and pathological effects of alcoholism on individuals, races, and species; whether the affection be acute or chronic, these are manifested by the diminution of vitality, and the premature age and deterioration of the organs, through steatosis of the parenchyma, or irritation of the serous membranes. Furthermore, the transitory or permanent symptoms presented by an occasional

or habitual drunkard are transmitted to children conceived during the period of inebriation. These symptoms are manifested by nervous or psychical disturbance, or by mental or physical deterioration, according to the degree of alcoholism presented by the parent. The effect of alcoholism is explained by the lesions or morbid modifications which it determines in every stage in the generative organs. Dr. Combemale also investigates the hereditary effects of alcoholism. These may manifest themselves in the offspring by producing deformity, by modifying the character, by diminishing their power of resistance to disease, or by inducing sterility. It may also act on the intellectual faculties of the offspring, and determine morbid conditions, such as idiocy, mental alienation, delirium, &c.

SOCIETY FOR THE STUDY OF INEBRIETY.

A QUARTERLY general meeting of the Society for the Study of Inebriety was held at the Rooms of the Medical Society of London, on Tuesday, 2nd October; Dr. Norman Kerr, President, in the chair.

The PRESIDENT referred to the great loss the society had sustained in the death of the late Dr. Townson, of Liverpool, who had been an active member from the first. Dr. Townson, during the lapse of half a century, had been a true and consistent friend of the inebriate, and had, as an abstaining medical practitioner, a wide and lasting influence on a large circle of patients and others. The loss of so many veterans ought to stimulate the members to redouble their efforts in the important work in which they were engaged.

Dr. F. J. GRAY, of Walsall, read a paper on "The classes of Inebriates and their Treatment," which is given in full elsewhere.

Dr. JOSEPH SMITH agreed with Dr. Gray that isolation, with exclusion of intoxicants, was the most essential condition of cure. The co-operation of the inebriate was needed; only if he were willing and desirous to be cured could there be a hope of cure. Dr. Smith rejoiced that they now had gained permanent legislation, which he hoped would be improved. It was useless trying to reform or cure an inebriate unless it were thoroughly understood that inebriety was a disease, and must be treated as other diseases were treated.

Surgeon-Major G. K. POOLE, M.D., said: The study of inebriety is a science, and the work of this society is a strictly scientific investigation of the highest importance. We have much to learn on this disease and its treatment; Dr. Kerr has thrown great light on the subject in his recent standard treatise on "Inebriety;" but we have a gigantic task before us yet. Reliable records, when they have accumulated sufficiently, will in time clear up all difficulties. Notwithstanding the president's teaching, I have

heard of medical men and others ordering liquors to inebriate patients. We want accurate observation to elucidate the actual diseased states in inebriety and the remedies best suited to these states. Many questions arise as to treatment. For example—is it right and safe to withdraw all alcohol when the inebriate patient appears getting steadily more wasted and weak? In such cases, ought one to resume alcohol again? The friends all exclaim that it is a shame to allow the patients to sink without a stimulant, and the doctor seems almost to have injured the patient by withholding alcohol. Then, should we give bromides, which are sedative, and with them ammonium, which is stimulant?

Dr. ARTHUR JAMISON said: I wish in the first place to contribute to the relief of Surgeon - Major Poole's question of conscience, whether it be wise, in such a case as he has related, to withdraw stimulants altogether. I have been asked a similar question many times before—I should say it is quite right to do so. Such cases are examples of general alcoholic fibrosis and their course is progressively downwards, but I am quite sure the pace is accelerated if alcohol be allowed to keep the patient up. Even in the form of weak wines, it only adds to the mischief and certainly extends the pathological conditions. I have seen cases where it has been allowed and then had to be withdrawn. When alcohol is ordered afresh in these cases, it often masks the other symptoms, setting up a form of poisoning which too frequently ends in fatal coma. I do not see why exception should be taken to the prescription of bromides and ammonia, one being said to be a depressant and the other a stimulant. Rather I should say the ammonia is an antidote and the bromide a reliever of the secondary reflex condition of the alcoholic state. But though our theories may vary the empiric fact remains, that this combination does great good. He is

indeed a wise man who knows what are the changes in his remedies when they are in the stomach. The point in the paper that interested me most, was the statement of inebriety being a disease. Of this fact there can be no manner of doubt, and the public wants educating to appreciate this truth, that alcoholism is not a sin nor vice, but a disease, and should be treated similarly to other diseases. As its effects are first and chiefly on the cerebro-spinal system, its cure should follow the lines of the treatment of other nervous diseases, not by penal measures but by separation and other therapeutic remedies. Roughly I would divide alcoholics into three divisions, those who break out into occasional violent outbursts of drinking, akin to epileptic insanity; those in whom a mere taste of alcohol sets up a morbid nervous disturbance or poisoning, causing a craving for more, that takes weeks of abstinence to overcome, just as the homologue of alcohol, sugar, if taken only in a few grains once, in a glycosuric subject keeps up the morbid train of symptoms weeks after the total abstinence from all saccharine compounds; lastly, those of weak power of will and weak nervous tone, whom the worries and incidents of life cause to fly to alcohol to maintain their nerve energy. For all these varieties the public are too fond of smoothing away their ill effects, pardoning, and giving them unctuous phrases that only encourage the alcoholic to continue in the pernicious practice. The sooner the public is taught to recognise them as states of ill-health, requiring prompt treatment, the better it will be for the alcoholic patient, for then under the cover and guidance of public opinion he will be encouraged to seek the benefits of a home, the moment any signs of his infirmity show themselves.

The PRESIDENT, in thanking Dr. Gray for his practical and suggestive paper, expressed his agreement with the insistence on the value of employment in the treatment of inebriety. Laziness was a prominent feature of convalescence, and there was great difficulty in getting inmates of male inebriate homes to engage in a healthy occupation. The superabundant vigour of the recovering from a debauch, could not be better directed into a healthful channel, than by manual labour. Dr. Gray was on strong ground in enlarging on the value of extensive premises, where patients could have ample opportunities for exercise without going outside the prohibitory territory. Tobacco was no part of the curative treatment of the disease. This was a delicate and difficult question, and licensees were generally compelled, though like Dr. Gray they loathed the sight and smell of tobacco, to allow its use to some extent. Undoubtedly, were it practicable, abstinence from tobacco would promote the cure of the great majority of inebriates. He was sorry to have to confirm Surgeon-Major Poole's account of the giving of strong drink to inebriates. He (the President) knew of one English home, where at each of three daily meals the patients were allowed a glass of beer; and of one foreign home where two glasses of intoxicating wine and one pint of lager beer were supplied to every inmate, male and female. It was high time that the principles of sound treatment were settled. He agreed with Dr. Jamison in the wisdom of withholding alcohol in the cases referred to, and in combining medicinal stimulants with sedatives in certain conditions.

The meeting then separated after a vote of thanks to Dr. Gray for his paper.

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TIPPLING DRUGGISTS.—A well-known druggist says that while druggists are, as a rule, men of sobriety and excellent moral character, they have two great temptations—tippling and opium-eating. A large percentage are only moderate users of either alcohol or opium; but they indulge nevertheless, and he wonders, under the circumstances, that there are not more mistakes in the compounding of prescriptions.—*British Weekly*.

British Medical Temperance Association.

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THE WINTER QUARTERLY MEETING.

A MEETING of members was held in the rooms of the Medical Society of London on Friday, November 30.

The president, Dr. B. W. RICHARDSON, F.R.S., took the chair, and gave an interesting address on the influence of alcohol on persons of different races. He dealt entirely with the various races found in England at the present time. These he stated to be, broadly speaking, five in number, though much intermixed by marriages. There were three principal races—the Teutonic, or Saxon—fair, pale, sturdy, large-framed, blue-eyed; the Celtic—ruddy, red-haired, hazel-eyed; the Jewish—lymphatic and dark-eyed. There were two minor races—the Gypsy, having such names as Willis, Lee, Roberts, Hall; and the Jute, found in Sussex, possibly Spanish. Taking the three chief races, there was a difference in their predilection for drink; the Saxons like sweet, strong drinks, such as mead, beer, and port; the Celts prefer light wines and spirits, especially whisky; the Jews take wine almost solely. These usages are due to custom and habit. As to the *effects*, the beer-drinkers were inclined to indolence, with obesity and fatty degeneration. Spirits induced nervous exhaustion and alcoholic paralysis. Wine led to melancholy and glandular degeneration, with softening of the brain. As to *conversion* from the use of drink, the Saxon was easily led, being very imitative, and was generally very staunch. The Celt was very capricious and excitable, not steady in conversion, altogether a dramatic nation. The Jew was very stubborn and difficult to convert; he was very seldom a total abstainer, but as a rule took very little, being very wise and subtle, and so avoiding excess; as one result he was long-lived, but not often lived beyond eighty years.

Dr. C. R. DRYSDALE, as chairman of a committee consisting of himself, Surgeon-Major Pringle, and H. A. W.

Coryn, Esq., then read a report on "Alcoholism and the Consumption of Alcohol in France," from the report to the Senate, which is given in full elsewhere.

In the discussion which followed, Surgeon-Major PRINGLE referred to the suggested new regulations for the sale of drink in France, and said that alterations were urgently needed here also, especially to prevent men remaining in public-houses until they are intoxicated.

Dr. NORMAN KERR agreed in the main with Dr. Richardson's account of the action of alcohol on the different races, but he regarded the greatest advances as being due to the Celts, and in Scotland the temperance movement was both more advanced and permanent. Climate had a good deal of influence, and he thought it might almost be said that there was a temperance belt in the warmest regions of the globe, with some exceptions, and the same drinks did not seem to produce the same bad effects. The habit of taking certain drinks, he thought, was due to something more than social custom. As to the French report, he did not think that they realised the A B C of the temperance reformation—namely, that ethylic alcohol was poisonous as well as the heavier alcohols. Every year, however, some foreign scientists were becoming convinced of this truth.

Dr. RICHARDSON proposed that the report by Drs. Drysdale, Pringle, and Coryn be published and forwarded to the Secretary of State for the Home Department, together with a memorial to be drawn up by the Council suggesting a similar commission here as applied to the United Kingdom, its colonies and dependencies, and that as many distinguished names outside the Association as can be obtained be added to the memorial.

This was seconded by Dr. RIDGE, and carried unanimously.

Notes and Extracts.

HASHISH.—We are very sorry to see quasi-medical paragraphs in the newspapers recommending the use of hashish. Hashish is a form of Indian hemp in which the native narcotic principle is present, and inebriation by hashish leads to one of the most dangerous forms of narcotic poisoning. It is much to be regretted that any European physician should be found to speak lightly of it.—*British Medical Journal*.

A DRUNKARD'S RETREAT IN SWITZERLAND.—A Drunkards' Retreat, to accommodate twenty patients, is announced to be opened shortly at Eilikon-sur-le-Thour (Switzerland), and a public meeting was recently held at Zurich to assist in obtaining a proper amount of support. The cost of the buildings did not exceed £1,400. It is founded on the principles of voluntary admission and agricultural work, and only patients susceptible of cure will be received.—*Medical Press*.

WORKHOUSE BEER REFUSED.—A novel incident took place on the 15th December, at the Dølgeelly Board of Guardians, Merionethshire. A guardian, Mr. John Davies, an hotel-keeper, of Barmouth, offered to supply the paupers with a gratuitous cask of beer at Christmas. Several guardians demurred. Poverty was, they said, created by drink, and it would be contrary to their duty to distribute liquors amongst the men and women, many of whom were paupers through drink. Ultimately the board decided by a majority to refuse to accept the beer.

ALCOHOLIC LIQUORS AND THE YELLOW FEVER.—Mayor Archibald, of Jacksonville, Florida, speaking recently of the ravages of yellow fever in that city, said:—"It strikes persons of alcoholic habits fatally. The fever is of a very mild form. The

mortality is only 15 per cent., and taking out the deaths of men addicted to the use of alcoholic beverages the mortality would not exceed 5 per cent. Two-thirds of the fatality is due to the fact that persons have been accustomed to the use of strong drink before they are attacked by the fever, and in every such case the patient invariably dies, and without reaction. It is a frequent remark on the Jacksonville streets that yellow fever is the best temperance lecture the city ever had."

WINE AND FOLLY.—Three colliers, out on spree, when times were more prosperous than at present, called at a public-house in Notts, whose landlord happened to be out at the time, and asked the waiting-maid for a bottle of port wine, which, to the best of her knowledge, she supplied. They drank it, and pronounced it so good they decided to have another. After drinking this also, they paid 10s. and left. The landlord, on returning, asked what had been sold. "Two bottles of wine," said the maid. "Where did you get it from?" said the landlord. The girl pointed to the shelf where stood more of the same bottles, when her master, roaring with laughter, exclaimed, "That is *ketchup*, I only bottled it yesterday, but never mind, it has paid well." Truly when "the wine is in, wit is out."

DRAM DRINKING v. OPIUM SMOKING.—The Colonial Surgeon for Hong Kong (Dr. Ayres) recommends us, in his annual report, to remove the beam from our own eyes before attempting the ablation of the mote from almond optics. Alluding to the habit of opium smoking as it is practised in China, he says that it is not half so detrimental to health as the far more pernicious habit of dram drinking, which, as we all know, is so prevalent in this.

country. He claims that the effect of opium smoking and the suffering incidental to its enforced discontinuance, as in the case of prisoners, have been dreadfully exaggerated. Indeed, according to his account, the habit is almost salutary, and is much to be preferred to the English habit of alcoholic indulgence, a vice to which the Chinese, as a nation, are not addicted.—*Hospital Gazette*.

LOSING FAITH IN SHERRY.—“Peripateticus,” writing in the *Hospital Gazette* (October 20th), says:—“My faith in sherry has been seriously disturbed by some statements which have recently appeared in the *Times*, and I formally cancel any words of praise that may have escaped me in the past. It is authoritatively asserted that the wines which are imported as sherry are not capable of acquiring more than 12 or 14 per cent. of alcoholic strength. As sold, they usually contain at least 26 per cent., and the inference is, therefore, that they are fortified by the admixture of spirit, presumably not of the first quality. Now I think of it, I can recall a number of headaches which, in the light of these revelations, I can safely refer to strictly moderate libations of this fraudulent vinous preparation. In future, I intend to take my methylated spirit pure, or at the most in aqueous solution.”

A MEDICAL VOICE AGAINST ALCOHOL.—Dr. A. M. Ross, an eminent physician of Toronto, Canada, is the author of a valuable series of health tracts, in one of which, on the subject of drink reform, he says: “All intoxicating drinks, including wine, porter, beer, ale, and cider, are poisons—they are inimical to the human constitution, and are produced only from the decay, destruction, and decomposition of the products of organised matters. They deserve execration for the miseries they have inflicted and are still inflicting on human society. I cannot refrain from uttering my astonishment that in this enlightened day there are so many physicians and clergymen who profess to guide the

body to health and the soul to heaven, who not only indulge in intoxicating drink themselves, but commend the vile stuff to their confiding followers and patients, and even to nursing women.”

AN AUSTRALIAN INEBRIATES' HOME—The Rev. W. L. Morton, of Ballarat, recently issued a report concerning the inebriate retreat under his management known as “Hope Lodge.” The lodge was opened in June, 1886. Since that time 134 men have been received. The work is conducted on undenominational lines, and though (as with all such work) there have been discouragements, there have been many delightful cases of rescued lives, where confirmed intemperance seemed to make success all but impossible. Commencing with a two-roomed house, Mr. Morton has now twenty-five rooms filled. In order to keep the inmates occupied, a Bible and tract depôt has been opened, and the following branches of industry are carried on:—Lithography, engraving, printing, watch-repairing, picture framing, photography, carpentering, and boot-making. Although the inmates have contributed £116 during the half-year, we are sorry to see that Hope Lodge is £100 in debt.

SHOULD DELICATE PEOPLE DRINK?—Dr. W. Murray's recent defence of alcohol is still being discussed in the North of England. At the annual meeting of the Gateshead branch of the Church Temperance Society, held on the 27th November, an able reply to Dr. Murray's paper was given by Dr. G. B. Morgan, of Sunderland, who argued that weak persons were the very people who should not drink. “If the constitution was weak, it would yield more readily to the fell power of alcohol. If they were worried in business, and took drink to make them sleep, it meant that they took to ruin. Dr. Murray had instanced the overwork that the present School Boards entailed upon their teachers, and pointed to them as a class that must take alcohol if they were to bear the strain. There could not be a more

mischievous piece of teaching by any man. To teach their young mistresses that wine, stout, and spirit were the props upon which they were to lean was fallacious and ruinous."

PRIZE ON ALCOHOLIC PATHOLOGICAL MICROSCOPY.—A prize of 100 dollars has been offered on behalf of the American Association for the Cure of Inebriates, by Dr. L. D. Mason, one of the vice-presidents, for the best original essay on "The Pathological Lesions of Chronic Alcoholism, capable of Microscopic Demonstration." Along with the essay, the competitors have to send carefully prepared microscopic slides, with accurate drawings or micro-photographs of these. Conclusions which have been founded on experiments with animals will be admissible. The object of the essay will be to demonstrate the facts as to these two questions: (1) Are there pathological lesions due to chronic alcoholism? (2) Are these lesions peculiar or not to chronic alcoholism? An authentic alcoholic history must accompany each microscopic preparation, complications such as specific disease being excluded. The essays, with slides, drawings, or micro-photographs, are to be forwarded to Dr. W. H. Bates, Chairman of the Prize Committee, 175, Remsen Street, Brooklyn, New York, not later than October 1, 1890. After adjudication the successful competitor will be asked to read and demonstrate, either personally or by proxy, his essay, at a meeting of the Medical Microscopical Society of Brooklyn. The essay, after publication in the *Journal of Inebriety*, will be the property of the author.—*British Medical Journal*.

TREATMENT OF HABITUAL DRUNKARDS.—This subject was under consideration at a meeting of the Manchester Women's Christian Temperance Association and Police Court Mission, held on the 13th December. Sir W. H. Houldsworth, Bart., M.P., who presided, expressed the pleasure it afforded him to take part in a work which was of the greatest, highest, and most serious importance to the people of

this country. The law at present in operation went only a small way to meet the evil. Mr. J. A. Birch read a paper, in which he dwelt on the dreadful havoc which drunkenness is playing in the land, and contended that, in order to deal effectually with habitual drunkards, something more was required than frequent committals for short terms. The punishment ought to be not only punitive but deterrent, and it could not be said that short terms of imprisonment were deterrent or remedial in any sense. He advocated the establishment of homes for inebriates. There were, already, he said, several homes for inebriates, but those were all places where the patient required to make a money payment. He thought poverty ought not to close the doors of such institutions against those who ought to have admittance to them. Refuges for inebriates ought to be established and supported in the same way as reformatories for juvenile offenders—by contributions from the imperial and local finances, by the contributions of the benevolent, and by such payments as the friends of the patients were able to make.

HOME FOR INEBRIATES IN NORWAY.—A lady visiting Norway has published an account of a Home for Inebriates at Heirndal, owned and conducted by Mr. Flood. In October last there were only six patients, but three times that number can be received, and as many as sixteen have been there at once. Mr. Flood enforces total abstinence from all intoxicating drinks, except in some cases, and then only for five days, after which time none is allowed. At first he enjoined absolute prohibition from the moment of entrance; but finding that an attack of delirium tremens often followed the sudden cessation of drinking, and, on one occasion, death ensuing, he felt he was wrong to push his own ideas to such an extent as to endanger the lives of his patients. So he said, "I sometimes allow a small quantity for five days, after which time there is no danger, and then I prohibit it altogether, and I always impress upon the

inmates that lifelong total abstinence is absolutely necessary for them." He prescribes a good deal of out-of-door exercise, part of it manual labour. At least one hour a day is spent at work in the garden or field—indoors, carpentering, turning, carving, &c., while some of the patients study certain hours a day. The length of time the patients stay in the Home varies from six to twelve months. All are received with their own consent, and they are all gentlemen pretty well-to-do. He says that the average number that have been effectually reclaimed is 50 per cent.

A BELGIAN DOCTOR ON ALCOHOL.—In a lecture delivered at Brussels, on the 28th September, on the physiology and pathology of alcohol, by Dr. Delaunoy, of Brussels, that gentleman demonstrated that spirituous drinks are neither alimentary nor strengthening. They constitute, at the most, excitants which may be useful in certain cases, and which must be used with moderation. The sought-for excitement is produced to the detriment of the general health; it checks intimate nutrition by diminishing the carbonic acid exhaled, and the quantity of urea emitted. He showed that these two substances were the ultimate products of oxidation, and that they marked the intensity of organic nutrition. The diminution, under the influence of alcohol, weakened the organism, and became, in drinkers, a state of vital failure which has no analogy, from a physical point of view, but that met in persons attacked with cancer or pulmonary phthisis. Thence follows the small resistance which drunkards can make to morbid agents, and the large contingent they furnish to those suffering from epidemic maladies and diseases in general. The lecturer also demonstrated that the immoderate use of spirituous drinks produced a large number of diseases, most of which were fatal. The following, he said, were some of them: ulcer and cancer of the stomach, the drinker's chronic gastritis (pituite), diseased liver, dropsy, apoplexy, albuminuria, delirium tre-

mens, paralytic insanity, &c. Agreeing with all the authors, Dr. Delaunoy stated that he believed himself to be able to affirm that the abuse of alcohol in general, constituted one of the most frequent causes of misery, premature death, madness, and crime.

TEMPERANCE AND TOTAL ABSTINENCE.—There is a great deal of time, and temper, and type wasted over a perfectly useless discussion—the superiority of teetotalism over temperance. Half a loaf is better than no bread, and while our teetotal friends are sighing over the refusal of some of the best men of all creeds and parties to go all lengths with them in their great and noble efforts to abate the national vice, we hail every effort of any man to increase his own sobriety and the nation's. An honest coachman who reduces his beer to proportions which leave his head and his joints clear, and induces others to do so, is to us a valuable soldier in the great army of reformers. A man who abandons "nips" and public-houses, however respectably conducted, and restricts his alcohol to meal-times, shows a wonderful advance on the man who perseveres in such injurious modes of drinking. We confess to thinking the "well-conducted public-house" somewhat an ideal conception. There are degrees of respectability in public-houses, and yet, with the growth of temperance there is a keener competition, which sometimes vulgarises seriously even the better class of houses. The great thing for all to remember is that "nipping" and public-house drinking are mischievous and contrary to all common sense and physiological teaching.—*Lancet*.

[Our contemporary might safely have gone further without laying itself open to the charge of "fanaticism." No one knows better than the editor of the *Lancet* that much of the drinking that prevails outside the public-house is as "mischievous and contrary to all common sense and physiological teaching" as that which is unfortunately practised within it.]

THE
MEDICAL TEMPERANCE JOURNAL,
April, 1889.

Original Contribution.

TOXIC HYSTERICAL PARALYSIS.*

By WALTER PEARCE, M.D., B.S., B.Sc., D.P.H. (Lond.),
M.R.C.P. *Physician to St. Mary's Hospital, and Medical
Tutor at the St. Mary's Medical School.*

MR. PRESIDENT AND GENTLEMEN,—Two years ago I had the honour of reading before this Society a paper on the “Absolute and Differential Diagnosis of Alcoholic Paralysis,” the essential characters of which are becoming now generally known, viz:—

1. A progressive paralysis affecting the extensor muscles, appearing first in the lower extremities, with loss of patella reflex.
2. Subjective shooting and rasping pains, and hyperalgesia.
3. Rapid wasting of paralysed muscles, with loss of faradic excitability.
4. Double foot and wrist drop.
5. Static œdema of extremities.
6. A peculiar delirium, denial of drinking habits, with delusions regarding daily pursuits supported with plausible assurance and cunning.

While on a visit to Paris last Easter, I attended the clinical demonstrations of Professor Charcot, at the Salpêtrière, and was struck with the frequency with which hysterical paralysis was associated with alcoholic habits. Professor Charcot regards alcohol as a powerful predisposing cause of hysterical paralysis, especially when traumatism is the immediate cause of hysterical paralysis in men. He has also pointed out that lead acts in the

* Read at a meeting of the British Medical Temperance Association, 26th February, 1889.

same way, and recently he has added another toxic agent, viz., bisulphide carbon to the list of exciting causes of hysterical paralysis. Since the visit to Paris I have had my attention directed to the subject, and have had under my observation and treatment two women with characteristic hysterical hemiplegia and hemianæsthesia. In one the family history was decidedly alcoholic, although the habits of the patient herself were doubtful in this respect. In the second, drinking was directly the cause of the hysterical attacks.

To these two cases will be added two others which have been recorded by Professor Charcot in the *Policlinique* of the Salpêtrière, one of which I had the opportunity of examining.

In conclusion a review will be given of the symptoms which will enable the condition to be recognised, and diagnosed from alcoholic paralysis, and paralysis due to organic lesions of the brain and spinal cord.

CASE I.

HYSTERICAL PARALYSIS.

The first case is given as a type of hysterical paralysis. E. T., age thirty-one, single; occupation, cook and general servant. The patient came to the hospital complaining of weakness and cramp on the left side, and was admitted under my charge, on May 26th, 1888. The following account is taken from notes by Mr. John Bullen, clinical clerk of the case.

Family history.—Father addicted to drink, died at the age of forty-four, from “abscess of liver.” The mother died at sixty years of age in an asylum; she drank to great excess. Out of a family of fourteen children only four are living, the remainder died of consumption or heart disease before the age of twenty. One sister is living in the country, and is said to be strong and well; the other sister is delicate and nervous, suffers from asthma and palpitation, and frequently faints on the least excitement. One brother is subject to asthma and bronchitis. The patient states that she has always been nervous and delicate, and subject to “fainting fits,” and attacks of vomiting, which may last a week or a fortnight. Some years ago she was admitted to St. George’s Hospital for rheumatic fever.

In January, 1883, she was cutting her wisdom-teeth, which produced an attack like the present. Fits continued until March, 1886, when she was removed to an asylum at Leavesden, where she remained six weeks. After this she returned to service, but being frightened by a dog she had another attack, and was taken to hospital, but was discharged at her own request in two days. Returning to her situation she was sent to the Paddington Infirmary, where several teeth were extracted. She got

better and resumed work, but subsequently came to St. Mary's Hospital, the spasms in her left leg coming on suddenly on the way to the hospital.

Condition on admission.—The patient is of medium height, rather thin, with sallow dark complexion. The expression is vacant and fatuous, the mouth being held open. The breathing is rapid—60 per minute—but there are no other indications of dyspnœa. She answers questions well, but speaks in low, husky whisper. The patient stands with difficulty, and steadies herself against a chair or table. There is a marked limp, the left leg being rigid and circumducted, the toe scraping along the floor very much as in ordinary hemiplegia. The left arm is held flexed, and close to the side; the wrist is also flexed, the fingers and thumb being held in the form of a cone.

When first seen by the house physician, Mr. Graham, he was in doubt as to whether some peculiarities of manner were due to drink or not.

Mental condition.—The patient is fairly intelligent, can read, and writes a good letter; but she is evidently weak-minded and emotional. However, during her stay in the hospital she worked whenever she was allowed out of bed, but she also had an exalted idea of the value of her services, and wished to remain as nurse in the hospital. Occasionally she spoke as if she had some delusions with respect to her past history. No fit was observed while in hospital, during a stay of nearly six weeks. The patient slept well, and often was difficult to rouse. She is reported to have dreamt a great deal.

Motor functions.—The left arm is flexed, and in a state of tonic rigidity, the fingers being held in the obstetric position, the carpo phalangeal joints flexed, the fingers and thumb extended and adducted. There is no voluntary movement, and a great amount of force does not produce movement in the joints of the wrist or fingers, which give an elastic resistance. The spasm can be relieved by gently fanning the extensor surface of the hand, when the muscles are relaxed, and the patient is able to move the arm, and grasp with the hand. After a varying interval the spasm returns, and is always firm during and after sleep. The spasmodic flexion of the hand is readily produced by pressure on the ulnar nerve at the elbow, or by rolling an elastic bandage tightly round the arm. Pressure on the lower roots of the brachial plexus in the neck induces spasm and flexion of the whole upper extremity. The left lower extremity is fixed in extension, the foot being in the position of talipes equino varus, the toe being hyper-extended. The limb is absolutely rigid, and only moves with the pelvis *en masse*. Pressure over the ovarian region causes the lower extremity to become flexed, but still

rigid, also the flexion of the arm is increased. Friction and massage relieve the spasm. No tremors or choreic movements are observed in either limb.

Facial paralysis and spasm are entirely absent. But after testing the faradic irritability of the face on the left side, slight facial spasm was produced, so that the face was slightly drawn to the left for a short time only. The nutrition of the paralysed limbs is unimpaired, and there is no reaction of degeneration. On the contrary, the Faradic current applied on opposite sides of the arm produces alternate powerful flexion and extension. When the upper roots of the brachial plexus in the neck are irritated with the current, extension of the arm follows, which is immediately flexed when the lower roots are irritated. The patella reflex is lost on the left side, but exaggerated on the right. The superficial abdominal reflexes are good on both sides. *Tâche cérébrale* was well marked. On the right side there is no spasm or paralysis.

Muscular sense is entirely lost on the left side. The position of the limb is quite unknown; when her arm happened to hang out of bed, she called out to other patients to know when her arm had been cut off, and who had done it. When the eyes are covered the patient is entirely unable to find her left arm or hand. She can only walk when allowed to look down at her foot; if she cannot see it, she is not able to advance it, and consequently does not put any weight on it, and hops on the other leg. This peculiar gait was not constant.

Sensory Functions.—The patient complains of certain subjective sensations, a feeling of dead weight on the top of the head, and on the forehead. No ovarian pain is complained of. Tingling and formication are absent.

Objective sensation is entirely lost on the left side. The prick of a pin cannot be felt on the face, nose, or lips, or any part of the left side of the trunk and left extremities. The bleeding caused is slight on the extremities.

The sense of heat and cold is lost; no impression is made by applying a hot spoon or ice to the skin on the left side.

The limbs and joints can be twisted and contorted with the greatest violence, even to bruising, without causing any pain. The strongest faradic current is not felt, although it produces spasm of the muscles.

Hearing is entirely lost on the left side, on the right side it is very acute. This fact was quite unknown to the patient, and she accused me of having rendered her deaf by application of the battery to her neck. Taste was not excited on the left side by strong acetic acid, but on the right side it was also less acute than normal.

Strong ammonia produced not the least effect when applied to

the left nostril, the right being closed. The left side of the palate, tonsil, and pharynx, as far down as the epiglottis, can be examined with the finger without discomfort to the patient. No hyperæsthetic spot can be detected on the left side; there is tenderness on pressing the spine in the lower dorsal and lumbar regions.

All down the right side there is marked hyperæsthesia, especially when tapped on the side of the head. Pressure on the right ovary discloses great tenderness, accompanied with a rising in the throat, increased dyspnœa, flexion of and cramping pains in left leg.

Eye.—The conjunctival reflex is lost on the left side. On testing the field of vision it was found that the patient's left eye was blind, and that the field of vision was much and irregularly restricted for white on the right side, that there was no field for green, and practically none for red.

Colour Vision.—The patient fails to recognise any colour in a bouquet of flowers except red. With coloured wools she once was able to select yellow and red, with all other colours she failed, especially with blue.

During her stay in the hospital the distribution of the anæsthesia and muscular spasm varied much, and eventually disappeared almost completely.

By various means, including magnetism, the anæsthesia and spasm were transferred from one side of the body to the other. But I will not detain the Society on this occasion any longer with the details of many interesting experiments.

Voice.—The patient generally speaks in a hoarse whisper, without effort.

Respiratory System.—Respiration rapid, chiefly abdominal: The right side of the chest moves more than the left, and there is some dulness at left apex, where the entry of air is feeble.

Circulatory System.—Heart sounds weak, no murmurs, pulse 76, regular. Temperature normal.

Digestive System.—Tongue rather large, slightly tremulous, clean, and moist. There is occasional difficulty in swallowing. Bowels are habitually constipated—only opened as a rule once a week. Vomiting comes on sometimes without pain.

Menstruation is very scanty and frequent, sometimes with only a few days' interval. Much pain precedes the menstrual flow, and this has determined a fit. Urine is passed about once in the twenty-four hours, and sometimes less frequently. The urine is of normal colour, acid, the sp. gr. 1030; contains much vaginal epithelium, a few pus corpuscles, and some mucus, but no albumen.

It is not maintained that this case is in any way directly due

to alcohol, but rather to a neurotic inheritance in which alcohol has been a potent factor.

CASE II.

HYSTERICAL HEMIANÆSTHESIA, WITH ALCOHOLISM.

L. G., age twenty, a girl of the unfortunate class, came to the out-patient department of St. Mary's Hospital on June 9th, 1888.

The patient had felt pain over the cardiac region for twenty-four hours, of a stabbing and cutting nature, which came on suddenly, and attended the hospital for medical treatment. While in the waiting-room the patient had a convulsive attack, which caused alarm among the patients, who directed my attention to the case. The convulsions were general, violent, and demonstrative. The head was tossed from side to side, the hair dishevelled, and the dress disordered. The hands were clenched, arms flexed, legs extended for the most part. Several piercing cries were given. Firm pressure was made in the groin over left ovary, which caused the convulsions to cease almost at once, the patient calling out "Leave off that, won't you." Some time was given to the patient to compose herself and tidy her hair.

For the record of this case I am indebted to Mr. P. J. Kingston.

Previous History.—The family history was not obtained, the patient being unable, or, more probably, unwilling, to communicate any of her antecedents. After gaining her confidence, and promising that no students should examine her, it was elicited that for years she had lived on the streets and that she had no permanent address. She had been a patient in most of the London hospitals, having the previous year been treated in St. Mary's Hospital for contracture of the hip-joint. The patient had also been in the Home of the Lock Hospital as well as in several Refuges. From these institutions the patient seems to have been discharged, frequently at her own request, but also for disorderly conduct. Often she has been taken to a hospital or police station in a fit and discharged the next day, or convicted for drunkenness.

At eight years of age there is said to have been an attack of rheumatic fever. There was a distinct history of syphilis, which has been confirmed by enquiry at the Lock Hospital, but no special signs were observed.

I must apologise for the incompleteness of these notes, which were made with some difficulty in the out-patient room; much against her wish, the girl was persuaded to become an in-patient with the view of recording her symptoms more fully. During the night she caused much disturbance, and accused the nurses and other patients of robbing her. When mention was made of the electric battery she refused to remain, dressed herself, and left the hospital the following day after admission.

Present Condition.—The patient is of medium height and has a fair complexion with a blotchy, ruddy, rather puffy face; she is well nourished. The breath is strongly alcoholic. The expression is sullen and cunning, the lips full and pouting, the upper eye-lids drooping, the eyes suffused and slightly jaundiced. The head is inclined forward and to one side, furtive side-glances being taken like a dog on the watch. The nostrils are dilated and move rapidly with respiration, especially when attention is directed during the examination. The left arm hangs by the side and is not used. The patient shuffles along with a limp; the left leg dragging in walking. She stands steadily.

Mental Symptoms.—The mental condition of the patient is very peculiar, the striking feature being resentment and suspicion of that which is going on around her. She insists on handling, smelling, and licking all instruments before they are applied, forming her own opinion as to their probable danger or use. This method of judging the properties of objects is no doubt greatly due to the loss of sight, which will be afterwards explained. The patient refuses to close her eyes both at the same time in case something is done to her; but she shows considerable intelligence, speaks distinctly and often sharply; although perverse she is otherwise apparently truthful. When the anæsthesia is tested there is much sobbing, also when the patient finds that there is blindness in one eye, after which she submits more willingly to examination with the hope of having the sight restored.

Motor Functions.—There is no facial paralysis, strabismus or nystagmus. The left arm shows very impaired movement, the hand can with difficulty be raised to the head, the right arm being used to assist the left. The grasp of the left hand was very feeble: paresis in the left leg was also marked. Spasm and rigidity are quite absent, and cannot be induced by pressure on ulnar nerve or by bands round the arm. Reflexes superficial and deep, appear to be normal. Slight tremors of hands and tongue are present. The muscular sense on the left side is markedly deficient, and, as far as can be ascertained, nearly absent. The patient is quite unable to find her left hand with her right when the left is concealed from view, except by passing the right hand down from left shoulder, the position of the left arm being quite unknown unless seen. Coins can be picked up with the right but not with the left hand, and all co-ordination is lost when the eyes are covered. The right arm and hand can co-ordinate perfectly. Nutrition of arm and leg is not affected, the electrical reactions were not ascertained.

Sensory Functions.—The patient complains of a subjective pain which she calls her "knife," at a spot in the axillary line over the eighth rib. The slightest touch over this spot causes

the patient to shout, and declare that a knife has been used. She examines the spot and insists in satisfying herself that there is no knife concealed in the doctor's coat sleeve. It is from this hyperæsthetic spot (over the splenic area) that the pain rises before the onset of the fit, at which time the globus hystericus is also felt. No other subjective sensations are complained of, except while under examination a feeling that her arm or leg has been cut off; to prevent this possibility she holds her left arm tightly to her side with the right. Formication, shooting, and darting pains are absent.

Objective sensation to touch and pain is entirely lost on the whole of the left side, the anæsthetic and analgesic area being definitely limited by a line drawn front and back down the centre of the body. When the patient's attention is diverted a needle can be thrust into the skin and muscle at any spot, except the hyperæsthetic spot already mentioned, without causing any feeling and little or no bleeding. Also the deep sensation of joints is lost, as the fingers, wrist, and elbow joints can be hyperextended or flexed in a manner which would cause great agony under normal conditions. Sensation of heat is also lost, a hot spoon causing no impression. In the same way if ice is applied to the left side it is not observed, but instantly the right side of the body or face are touched the patient protests and wipes the part dry with her handkerchief. The tongue is protruded straight. The left side has also lost sensation, it can be transfixated with a needle; sulphate of quinine and strong acetic acid cannot be tasted, but when the acid touches the right side it is so acrid that no coaxing will permit patient to allow the experiment to be repeated. The pharynx on the left side is so insensible that the finger can be passed down to the glottis and larynx without causing the least irritation, instantly that the finger passes to the right side the patient resists and pulls the hand of the operator away.

Strong ammonia applied to the left nostril is not objected to, and does not even cause lachrymation, until the fumes rise directly to the eye. On the right side the nose is quite sensitive.

Examination of Eyes.—The pupils contract sluggishly to light; it is impossible to test the reaction for accommodation, as vision is so imperfect. Conjunctural reflex is absent on left side. No changes in the discs are found by ophthalmoscopic examination.

Colour Vision.—When asked the colour of any substance, the patient glances at it side-ways with the right eye, feeling it carefully with the right hand, holding it with the left; she then tastes and smells it before giving an answer, which is generally

wrong unless the colour contains red or green. When trying to name coloured wools she compares the wool with portions of her own dress; after some difficulty she recognises blue, but cannot in the slightest degree find yellow or violet, calling violet black, and yellow white.

On testing the field of vision with the perimeter the sight of the left eye was restricted to a point, and the spot could only be seen with difficulty. On the right side the field was irregularly constricted to 15° ; there was no field of vision for green, practically only a central point for red.

The left ear is quite deaf; the ticking of a watch can only be heard when brought into contact with the ear. Hearing on right side good.

There are no contractures of the joints, deformity of the spine, or tenderness over the vertebra.

There is no difficulty in micturition or defecation. Vomiting is sometimes present, which the patient admits to be due to drink.

The circulatory and respiratory systems seem normal. The pulse is 108 and regular, the temperature 98° , and the same on both sides of the body. Respiration 60 per minute. Menstruation is irregular.

The subsequent course of the case I have not been able to follow, but inquiries have been addressed to me by a philanthropic lady who had found a home for the patient, from which she decamped, and one night she was brought to the hospital in a drunken hysterical fit by two policemen.

I think there can be no doubt that, in this case at least, alcohol was the direct exciting cause of the fits and of the hysterical paralysis.

No doubt the patient's mode of life incurred sexual excesses which also contributed to the neurotic condition.

DIAGNOSIS.

The diagnosis of hysterical anæsthesia from anæsthesia due to capsular lesions in the posterior horn is not always easy. Dr. Ferrier has reported cases in which the anæsthesia was thought to be due to hysteria during life, in which after death lesions were found in the sensitive region of the posterior part of internal capsule.

Hemianæsthesia is so rarely observed in hemiplegia of cerebral origin because hæmorrhages and degeneration so rarely take place in the posterior part of internal capsule. One of the principal arguments for establishing that a patient suffering from hemianæsthesia and hemiplegia is not hysterical is that the

facial nerve is paralysed on the same side. Hysterical hemiplegia affects exclusively the limbs, and the facial nerve is not implicated, as is so often the case in organic hemiplegia. The paralysis is most absolute in ordinary hemiplegia, and the anæsthesia is much less marked.

Several authors, including Todd, Althous, and Wear Mitchell, have described hysterical cases with facial paralysis and deviation of the tongue to the paralysed side. But this facial paralysis due to supposed organic lesion, with deviation of tongue to the paralysed side, can be imitated in hysteria so as to produce confusion of the two conditions, by an affection of the lower facial muscles, which is not paralytic, and which Professor Charcot has called pseudo-facial paralysis, and is due to glosso-labial spasm, which is not in any way connected with or subsequent to facial paralysis.

In a case of this kind at the Salpêtrière, anæsthesia on the left side was well marked. The patient had hysterical attacks, and had restriction of field of vision. When protruded the tongue was directed to the left and curved; the inner side of the tongue seemed thicker and narrower, but when the patient was asked to show his teeth, the face was drawn to the left also, and the lips and chin were much puckered. When the spasms were severe the patient was unable to protrude the tongue. In paralysis the tongue is protruded to one side, but is not curved.

Anæsthesia complete on one side, which passes to the muscles and articulations, with loss of common sensation, analgesia, insensibility to heat and cold, and also loss of muscular sense, belongs to hysteria alone, especially when accompanied with loss of special senses, restriction of field of vision, and colour blindness. The mucous membranes are affected by the anæsthesia, but it does not extend to the viscera. Hysterical patients are generally unconscious of and consequently are not troubled by the anæsthesia.

Paralyses and the contractions are on the anæsthetic side. Hyperæsthesia generally exists over the ovary opposite to the anæsthesia.

It is quite impossible for these symptoms to be produced in any other condition. Hemianæsthesia due to spinal lesions differs from that produced by cerebral disease, inasmuch as the face is not attacked, and the anæsthesia is on the opposite side to the paralysis.

CASE III.

TRAUMATIC HYSTERICAL PARALYSIS AND ALCOHOLISM.

The third case is described in the *Policlinique*, April 19th, 1888. The patient was a decided sot, and Professor Charcot

considered his attack to have been induced by the toxic effect of alcohol, although directly excited by an injury.

Hystero-traumatic paralysis is of fairly frequent occurrence, especially in men who are subject to chronic alcoholism. The following is a typical case.

The patient, a labourer engaged in a brass foundry, was apparently vigorous, but addicted to drinking, of which habit he carried the unmistakable signs. Three weeks before admission to the Salpêtrière this man was engaged in hammering out a plate of brass, which he was holding with his left hand; the plate slipped, and the mallet fell on his left thumb. There is good reason to believe that the patient was rather drunk at the time of the accident.

The first effect was to cause swelling of the hand, which was distinctly bruised; this disappeared in about four days. But then it was found that the hand was quite powerless, the wrist dropped, and the fingers could not even be moved. On admission there was some return of power in the hand, and he could press the dynamometer to 18 kilos. There was total anæsthesia of the hand, and of the forearm nearly up to the elbow, which was abruptly defined by a line drawn round the arm at right angles to the axis of the limb. When the eyes were closed the patient was quite unconscious of any movements of the wrist, and torsion of the fingers produced no pain.

A cortical lesion could not produce such a condition, as the motor and sensory centres are distinct; whereas in this case the motor and sensory functions are affected in parts physiologically associated. Also here the distribution of paralysis does not follow the area supplied by any particular peripheral nerve.

In addition, this man has a distinct contraction of the field of vision, with a central scotoma for colours in each eye. The latter is more a symptom of alcoholism than of hysteria. The patient showed tremors of the hands and lips.

The paralysis is not alcoholic from the fact that it is one-sided, and is limited to the area of anæsthesia, also from the absence of hyperalgesia.

CASE IV.

TOXIC HYSTERICAL PARALYSIS.

The last case which I wish to bring to your notice is a toxic hysterical paralysis produced by bisulphide of carbon, which has been described by Professor Charcot, in the *Policlinique* of November 6th, 1888. The nervous affections produced by bisulphide of carbon were first described by Delpech in 1856, and again in 1863; he attempted to establish a distinct paralysis attributable to bisulphide of carbon, having distinct clinical

characters as those belonging to lead and alcoholic paralysis. Professor Charcot draws attention to the present case in order to emphasise the fact that toxic agents, such as alcohol, lead, and bisulphide of carbon, do excite hysterical paralysis, although they may also produce a paralysis characteristic of each of them.

Bisulphide of carbon is chiefly used as a solvent in the manufacture of vulcanised india-rubber.

The case is thus described. The patient is a man of sixty; he was formerly very vigorous, but has lost strength lately. However, the paralysis from which he now suffers came on suddenly six weeks ago. The family history of the patient discloses no neuropathic disorder; on the contrary, the patient claims to have several ancestors who have been centenarians. There is every reason to believe that the man has always been strictly sober, and not addicted to alcoholic or other excesses. For many years he was a shepherd; and, not having learnt to read, it cannot be his intellectual culture which has caused the nervous breakdown. Since 1872 he has been employed in a vulcanised india-rubber factory for varying periods, working as a ground labourer in the intervals. Previous to September 24th he had worked for four months in the factory, exposed to the fumes of bisulphide of carbon. Suddenly, after a feeling of suffocation and a burning sensation on the scrotum, the patient fell suddenly, without a cry, as if struck by apoplexy. His fellow-workmen thought he was asphyxiated, as often happens in this manufacture. During an insensibility of half an hour there were no convulsions. On recovering consciousness he was confused but was able to walk home. He remained at home for two days without knowing exactly what took place, but on the third day the right arm felt numb, and the next day it was quite paralysed; the same day the leg on the same side became also weak, but the patient was always able to walk.

It was on the 28th of September that patient entered hospital, first at the Pitié and then the Salpêtrière. In walking, the patient drags the paralysed limb after him, according to the classical description given of hysterical paralysis by Todd. The limb is quite flaccid, and no effort is made to raise it from the ground. There is no circumduction as in ordinary hemiplegia of organic origin. The right arm is pendent without rigidity, except the fingers which are extended together and flexed at the carpo phalangeal joints, so as to make a right angle with the palm. There is spasm in the fingers, as can be ascertained by the elastic recoil on forcible movement; the position is not that of the claw-hand assumed by the fingers after muscular atrophy. The right hand can only press the dynamometer to 11 kilos, whereas the left gives 120 kilos. There is no increase of reflexes in the arm or

leg. This again points to the absence of a spastic paralysis, secondary to an organic lesion.

On the whole of the right side—limbs, head, and trunk—there is complete anæsthesia, a rare condition in ordinary hemiplegia due to a lesion in the posterior part of the internal capsule. The joints can be distorted without causing pain, and there is loss of muscular sense. These symptoms would suffice to establish the presence of hysterical paralysis, but there are other signs. There is no facial paralysis on the right side, but there is slight spasm, which draws the face to the right or the paralysed side. The tongue is also hooked towards the right side when protruded. There is restriction of field of vision on the right side only. No loss of colour vision, but anæsthesia of the pharynx, also deafness and loss of taste and smell on the right side. All these confirm the diagnosis of hysterical paralysis.

In this case there have been no convulsive attacks, and one can find no hyperæsthetic or hysterogenic zones, but these are not necessary to establish a case of hysterical paralysis. Hysteria has many developments, and all cannot be found together on the same person. Hysterical men of the labouring class, observes Prof. Charcot, are always dull, melancholic, depressed, and discouraged, as is the case with the present poor patient since the commencement of this attack due to the toxic action of bisulphide of carbon. Before this he entered into his daily work with a certain amount of resolution; now he is persuaded that he is good for nothing, and gives up entirely to despondency. This man has also terrifying dreams, which are of frequent occurrence with hysterical men.

Four cases have now been discussed, in which the following symptoms of hysterical paralysis exist:—

1. A more or less sudden paralysis of limbs, accompanied with total loss of muscular sense.
2. Complete anæsthesia superficial and deep, the affected regions being sharply defined without reference to nerve distributions.
3. Flaccidity of paralysed limbs, or spasm without increase of deep reflexes.
4. Loss of special senses on affected side, colour blindness, and restriction of field of vision.
5. No failure in nutrition of muscles.
6. Absence of facial paralysis.

The point which I wish to enforce is that hysterical paralysis, occurring as it does more often among women, due to a neurotic inheritance, sexual disorders, emotional attacks, debility and other exciting causes, can also be excited in both men and women by injury and toxic agents, of which alcohol is one of the most common, although it may also produce other disorders

peculiar to its destructive action on the nervous system, such as delirium tremens and alcoholic paralysis. Epilepsy, general paralysis of the insane, and chronic dementia, are also attributed to the degenerative changes produced by alcohol, so that the addition of hysterical paralysis to this list of neuropathics is justified by the analogy to be drawn from the facts stated in this paper.



Miscellaneous Communications.



INEBRIETY IN THE HIGHER AND EDUCATED CLASSES.*

By DR. JAMES STEWART, B.A., *Dunmurry, Sneyd Park, nr. Clifton.*

PRIVILEGED as I am to-day, to read the first paper of the year before this Society, I cannot refrain from the expression of a hope that our studies in 1889 may result in real progress in the scientific research in which we are engaged. Let each member bear in mind during the whole of this year that we all profess to be students of a particular disease, and that it behoves each of us to labour diligently in the field of observation wherein we are all fellow-workers.

The particular branch of the subject on which I have to address you to-day is one which has engaged my attention almost exclusively for the last twelve years. Even after accumulating so many facts as must necessarily have come under my observation during all this time, I would have hesitated to undertake the task now before me, had I not been urged thereto by the worthy captain of our band of workers. He represented to me that practical experience such as I could boast of should not, if I were loyal to the Society, be withheld from my fellow-members. And here I cannot refrain from expressing a hope, which I know is shared in by all who are present to-day, that we may long have as our leader, so genial, so hard-working, so

encouraging a captain, as we have at present, in our beloved President, Dr. Norman Kerr. How often by his kind and sympathising expressions during the last twelve years has he prevented me from yielding almost to despair when I saw so small a result appearing after so much labour! Were it not for his so constantly reminding me that the knowledge of having done anything conscientiously was in itself a reward, I doubt if I would be able to stand before you in the position I occupy by your favour to-day—a reporter, as it were, of the result of reflections suggested during work still in progress.

And now, you may ask me, what is there in the disease of inebriety as it is found among the cultured classes to justify my devoting the time at my disposal to the consideration of such a small branch of the subject. I would answer by reminding every practical physician before me to-day of the great differences there exist in the types of *all* diseases according to the surroundings of the sufferers, but of none more than those affecting the nervous system. And then, again, in reference to the treatment of the same type of nerve disease in different classes of patients, one is compelled to recognise the necessity of adapting remedies in a very elastic fashion to surrounding circumstances. The in-

* Read at a meeting of the Society for the Study of Inebriety, 1st January, 1889.

ebriate whose manner of life and daily occupations make him familiar from his earliest years with squalor and wretchedness, has a physical constitution very different from that of the squire, who has been nursed in the lap of luxury from his infancy. What in the former case might be most suitable and effectual treatment, would in the latter be simply absurd.

But here I find myself taking for granted that all the scientific world of medicine now looks upon inebriety as a physical disease, associated with absolute loss of function, which implies more or less destruction of nerve tissue. I ought to have remembered that but a few months ago the editor of one of our leading medical weeklies, when alluding to the systematic lectures of Dr. Norman Kerr, spoke of inebriety as an "ailment." In the same paragraph, however, there was quoted an expression, in which no less an authority than Professor Bünge, referred to it as the "alcohol plague." Between these two extremes is to be found what seems to be the true position.

I have little doubt but that when our microscopists have made the discoveries which are foreshadowed already it will be proved to the satisfaction of the most exact pathologist that there is in the case of every inebriate who dies before the *vis medicatrix nature* has had time to do its reparative work, an absolute *destruction of a portion of the brain substance*. It will be found, I make little doubt, that this destruction, this loss of substance, is as complete as when in cutting a loaf of bread you accidentally slice off a portion of your finger end. The wise man who meets with an accident such as this wraps up the injured finger so as to exclude from the wounded surface what would interfere with the growth of new tissue, *i.e.*, with the laying down of fresh substance to replace what either has actually been bodily removed by the knife or will, in the inevitable course of events be lost by ulceration.

If we have a conviction that the pathology of inebriety is such as I have very briefly hinted at, we may

approach our patients of the cultured classes in a manner which will commend itself to their reason and understanding. And here allow me to interpolate the observation that in this power which pathological *convictions*, if not undeniable facts, put in our hands we have a valuable aid in dealing as physicians with an inebriate whose intelligence has been cultivated by higher education—help which is not available if we are dealing with those who have not had such advantages. But to pursue my analogy of the cut finger, or rather the finger from which a portion has been absolutely sliced at the top. The inebriate, we believe, has sustained a loss of his brain substance. We know by observation that there is certainly a loss of will-power in every inebriate without exception. We also know that the power of distinguishing truth from falsehood is invariably weakened in the drink-craver.

All that we can do as physicians is to assist Nature in her efforts to make good the loss of tissue—to build up again the portions of the brain through the medium of which those faculties are exercised. What particular part of the brain is used in the exercise of those faculties we cannot yet say absolutely, but the researches of Ferrier and others may yet enable us to put our finger on the parts involved as certainly as we can now on the olfactory bulb, and be equally positive as to the functions exercised through each.

If we can induce our patient to be as careful to prevent Dame Nature from being interfered with when rebuilding the brain structure as she would be if she were engaged in providing a new top for his finger, our results of treatment would be a hundred fold more satisfactory than they are. One great use in my mind of a Society such as ours is to bring constantly before the public arguments in support of this view of the pathology of inebriety, so that when man or woman of education becomes the victim of the disease (call it "ailment" or "plague," which you please), the physician on being asked what had

better be done in the case may find the ground somewhat prepared for him, and the patient all the more likely to accept as rational the mode of treatment based on such pathological dicta.

I am addressing to-day some West-end physicians. Let me suppose then that one of you gentlemen has before you an intelligent drink-craver, who recognises that he is suffering from a loss of brain substance. Let me take for granted that he has come to you of his own accord—that he has driven up to your hall-door in his own brougham—that he is sitting in your consulting-room after detailing to you how he has over and over again resolved to loose himself from his enemy, and over and over again failed in the attempt; how he feels ashamed of himself when he recovers temporarily from the result of his yielding to the temptation to take what is ruining his health, destroying his prospects, alienating his friends—aye, weakening even the ties of a life-long affection binding him to the noble woman whom in happier days he had induced to leave the shelter of a joyous home in order to become his wife.

Listen to him as he goes on further to describe to you how the literary work to which he had been devoting his leisure moments, and which promised to increase his reputation and add to his wealth, was now almost entirely given up; that when he settled down to his books and MSS., he felt much enjoyment in them at first, but that his energy soon failed, and an irresistible impulse led him to take a glass of brandy just as a "fillip," which quickly lost its effect, and he was compelled to call for more; how his wife with tears in her eyes had over and over again besought him never to touch the accursed poison; how he had promised her faithfully, earnestly, and honestly, to abstain entirely even from beer for a dinner drink, but that he found himself led to do what he had never done before—to deceive her whom he loved as the apple of his eye, and who was the mother of his darling children. Allow him to continue his tale of self-accusation, inter-

larded as it probably will be with protestations that between the attacks (which are separated from each other by shorter and still shorter intervals of time) he is able to transact his business, attend to his parliamentary duties, and proceed with his literary work as well as ever, remaining all the while a total abstainer. At last he will come to the point which took him to your consulting-room, and will say to you, "Now, doctor, I want you to give me some medicine that I can take when I feel one of these attacks is coming on; something, you know, that will prevent my feeling that terrible crave." He will then confess to you that he formerly thought he could give up the accursed habit himself without help, merely determining never to touch alcohol in any form, but that he had at last found that without some help he could not carry out his resolution.

My advice to you is to address your M.P. friend somewhat as follows:—"My dear sir, you are suffering from an absolute loss of brain substance. That portion of your brain which is used every time the will power is exercised is injured. Alcohol is a poison which has what we call an affinity for that portion of the brain. It seeks out, as it were, that particular spot, and there performs its destroying power. Now, if you want to get that injured tissue restored; if you want"—and here you can take some spongiopiline or like substance from your drawer and gouge out enough to hold a three-penny piece, then pointing to the depressed surface you may continue thus:—"if, I say, you wish to have the depression (as decided as the one you see here) in your brain filled up by new matter it is *not impossible* to get the work done. But I cannot do it for you. No medicine that I could give you would prevent you from acting as you have told me you do when that crave arises *until the depression I have referred to has been filled up*. Dame Nature will do it for you, but you must give her fair play. If you had broken your right arm you would have gone to your friend Sir William, who would

have told you you must wear a splint and give up all writing for a certain time. Why should the surgeon tell you to submit yourself to this great inconvenience? Just that Dame Nature might do her reparative work unimpeded. Now, in the same way that you would submit to going about with a splint made of wood if your arm was injured, so you must consent to going about with a metaphorical splint attached to you while Dame Nature is rebuilding your injured brain. That splint must be the company of some one who will prevent you from doing aught that will hinder the good Dame in her reparative work. A single glass of the mildest claret, a tumblerful of the lightest ale, taken while she is at her work may cause — nay, probably will cause — the destruction of what it has taken her weeks and weeks, aye, perhaps months and months to build.”

The M.P. will probably look incredulous, but you must stick to your guns and continue the attack, saying: “You look surprised, my friend, but were you as well acquainted with the way in which Dame Nature works as I am, you would cease to be incredulous. You would know that she is able to lay down new tissue only at a certain rate according to the part of the body where her reparative powers are called into requisition. You would know that inside that bone-box you carry above your shoulders, she works very slowly indeed, and I’ll venture to say that if you consult a dozen of the eminent physicians of the day, at least ten of them will assure you that the brain, injured as I have told you I believe yours to be, cannot be repaired thoroughly unless her ladyship is allowed to work without the slightest interruption from King Alcohol for a whole twelvemonth.” When you get thus far you will hear the pet of the House of Commons’ Smoking Room utter a groan that betokens a feeling of despair. But you must not appear to notice this, merely saying, “Come now, my friend, when will you let the splint be put on?” His reply will probably be in the form of a question such as, “Won’t it do if my wife goes with me abroad? She’ll act as the splint

you talk of.” You say “No, emphatically no. Willing though she may be, devoted as I dare say she is, she is the last person in the world to whom I would entrust the task of acting as your shield against your enemy.” “Well! what about my son? he has just taken his degree at the University, and a year’s travel will do him good before he settles down.” You answer “No! none of your relatives are fit for the task. You must go to some country doctor who has made a study of the treatment of a disease like yours; some one who will be a pleasant companion in your walks abroad, and from whom, or his deputy, you must *never separate yourself* while you are within possible reach of your enemy; someone who has a cheerful gentlewoman for a wife, the joyful mother of children, who will make you feel ‘at home’ under her husband’s roof, who will in fact give you some of the poetry of life to enjoy while your treatment is being carried on by your prosaic but kind-hearted physician; the friend to whom if you are wise, you will submit yourself as absolutely as you would to the surgeon if your arm were broken. Try and find a doctor who resides at least a mile from a pawnbroker’s shop; search for one who lives in a bracing locality, far from club, hotel, or ‘public,’ a doctor who will take you with him on excursions in the summer (by road, or rail, or steamboat) and follow the hounds with you on foot in the winter, thus putting in good working order the boiler and pump and other fittings in the hull, while Dame Nature repairs the damage done aloft. Let him be, if possible, a man who has rubbed off the angles of his character by foreign travel, a man with a vigorous constitution so that he may take his ten-mile walk with you in the forenoon, play his tennis or billiards with you in the afternoon, and take a hand at whist or go to a meeting with you, or a concert, or some such-like *divertissement* in the evening. Above all things take care that he is a Christian gentleman who will sympathise with you as one fellow-sinner with another. Remember, too, that

if he is an honest man and you ask him to receive you as his patient for three or four months only, he will decline, and tell you that suppose a surgeon was to undertake to make a man who had broken his arm fit to pull an oar in six days after the fracture, such a man would be scouted from the society of his brethren, and that he too would deserve to be similarly treated if he undertook to cure in an equivalently short time an *injured brain*, with probably heart, stomach, kidneys, and liver complications."

After you have thus addressed your patient he will say probably, "Well, Doctor, I'll think about it, but I must first consult the chairman of my committee down in Mid Blankshire, and see whether he thinks my constituents would consent to my being a year absent from the House. Then there's the home farm to be looked after, Doctor, and the book I am preparing for the press, and my daughter's possible—well I may say probable—marriage to come off in the autumn, and a lot of other odds and ends that must be seen to by myself before I go down to your friend with the charming wife! Good bye, Doctor, you'll hear from me when I make up my mind!" But months and months pass without his making up his mind, albeit he has been to several physicians who have practically given him the same advice. His book is not progressing, his wife is getting worn out, even her sweet expression is being displaced by a look of half-frightened suspicion, and the old tale—the same sad sequence of events—is repeated. He at last consents to go for six months. Be sure you warn him that the foundation will scarcely be laid by that time, but trust to the wisdom of your medical friend with whom you recommend him to live, that the latter will induce him to extend the period to the minimum time required if a permanent recovery is to be looked forward to.

Now we will suppose your patient has reached the "Home." What ought to be his treatment there? If his new physician be a man of experience he will cut him off absolutely and entirely from the very first from

all alcoholic stimulants, whether in the shape of beer, or claret, or anything else.

The depression from which inebriates are generally suffering on first arrival at a Home requires the frequent administration of egg and milk, beef-tea, milk and lime water, soda and milk, and other easily swallowed beverages, taken every hour and a half at first, and gradually reduced in frequency. The sleeplessness from which almost all inebriates suffer at first is best treated by a draught composed of twenty minims of the solution of bimeconate of morphia, with ten to fifteen grains of chloral, alternated for a few nights with other hypnotics. I am in the habit of putting into the bed-room of a patient suffering from much depression and dread of impending death a small bed which I occupy myself for the first three or four nights. As the strength of body returns gentle exercise ought to be insisted on, increased gradually till at least eight or ten miles a day for a gentleman, or five miles for a lady, can be accomplished with ease. If the patient does not engage in literary work, and has no hobby such as music, wood-carving, carpentry, or gardening, he ought—and this has its advantages in being a pleasant occupation for both sexes—to learn crystoleum painting or photography. The former is specially useful, as the ladies of the family circle may join the gentlemen while at it. Photography is greatly liked by those who are induced to take it up. It affords an excuse for excursions to the country as well as occupation in the house. Gentlemen patients ought to be taken often to public meetings, and both ladies and gentlemen to concerts, cricket matches, and the like. Diversissements of one kind or another should frequently be arranged for (the doctor always accompanying).

The patient who suffers from the drink crave ought in fact, by one means or another, to have his or her mind constantly employed. The diet at the home should be plain but good, with the introduction of as few highly seasoned dishes as possible.

Here I would take the opportunity to protest against the fallacious idea too common in the minds of many members of the medical profession, that by the exhibition of such drugs as capsicum you can destroy the craving for alcohol, or at least keep it under. You may perhaps smother it for awhile by repeated doses of the perchloride of iron, or one of the class of drugs to which capsicum belongs, or possibly by what was for awhile so much vaunted—a particular sort of bark, or the more recently recommended strychnine cure; but my experience leads me to the conclusion (supported by the testimony of the patients themselves) that you are by this treatment only substituting one enslavement for another. The same remark applies to some extent to aërated beverages. Without absolutely interdicting them I recommend my patients to do without them, to drink plain filtered water at their dinner and take plenty of milk with either tea or coffee. It should be drilled into the minds of drink-cravers that the addition of a little lime water will make milk digestible by even the most delicate stomach. The regular meals in a Home for Inebriates ought to be four in number besides afternoon tea, the latter never being given very weak. Dinner should be early in the afternoon. Supper ought to be a light meal, and in the case at all events of recent cases ought frequently to be composed principally of well-boiled oatmeal porridge—which makes an excellent “night-cap.” The drink-craver should be induced to take cocoa in preference to either tea or coffee, to avoid a large addition of condiments, hot pickles and the like, to his food at dinner; and if he suffers—as most of them do—from pain in the stomach after food, to take large draughts of very hot water twice or three times a day. Smoking should be reduced greatly, if it cannot be entirely given up. A walk of about a mile before retiring for the night is often found most beneficial for those who suffer from sleeplessness.

In order to carry out such details of treatment as I have indicated under

his own eye, the physician who thinks he has an aptitude for dealing with inebriates ought to give up all general practice and devote himself to not more than five or six resident patients. The domestic family feeling is destroyed if the number of “guests” exceeds six. If he has a vigorous energetic wife who is also a good walker he may undertake the number, provided two out of the six are ladies. Even so the labour for both the physician and his wife is enormous; the strain upon the physical and mental energies is constant and exhaustive. No money remuneration can repay them for their toil. They must be content with the reward of a good conscience. The men who seem to be best fitted for carrying on such work successfully from the physician’s point of view are retired naval or military surgeons whose pension enables them to keep a roof over their heads till they have established a reputation for dealing *honestly* with the ladies and gentlemen who put themselves under their care. I say “honestly,” for I do not consider any man can possibly do justice to drink-cravers resident in his family if he has constantly to be separated from them while attending the houses of patients, whom he has to visit in the ordinary course of general practice. The story has been so often told me by men who have had experience of such “playing at treatment” that I am convinced that many inebriates prefer to go to such houses, because they can do what I was told by a stock-broker (who was under my care, but left me because I was too strict)—that he did frequently. He used to go out with the doctor in his stanhope on his country rounds; he soon found out the geography of the district and how long the doctor (who was to be his shield forsooth from temptation) was likely to be in certain patients’ houses. It was a very easy matter as he had plenty of money to induce the coachman to take him to a certain place on the road where he might gather ferns (it was in Devonshire). The coachman used to allow his master’s patient to get out of the

stanhope at a gap in the hedge near the fern-bank, and then he would walk the horse up and down while waiting for the enthusiastic botanist. Unfortunately there arose very frequently a cloud—it was evidently “a cloud with a silver lining”—between that coachman and the gap (a little further down the road) from which a few minutes’ run could easily take the stockbroker to the way-side inn. It was a matter of only a few more minutes to run back to where he had got out of the stanhope. This little manœuvre was gone through just as often as was necessary to keep the pocket flask pretty well supplied for the stockbroker’s “night-cap.”

One of the greatest difficulties in dealing with inebriates of the upper classes arises from this silver-lined cloud. I try to induce those who come to me to give to a brother or the family lawyer—by no means to the wife or husband (as the case may be)—“power of attorney” over all their money while with me. Even this, however, does not always suffice. I had a county magistrate once in my house who used to write to his own tenants and get money from them with which he tried to bribe my servants. The risks connected with bribery ought to be reduced to a minimum. The physician ought never to appoint as his deputy to accompany his inebriate patient anyone of lower social position than himself or anyone not a total abstainer.

One of the great objections in my mind to *large* establishments and Homes under the Act is the necessity to have a large staff of servants. Every hireling almost is open to a bribe, and the fewer you have, consistent with keeping the house comfortable, the fewer are the difficulties you have to contend against in reference to clandestine introduction of alcoholic drinks. If a “Home” under the Inebriates Act is to pay, it must be capable of accommodating at least a dozen. Now I have said already that I consider five, or at most six inebriates—all being of the cultured classes—as many as any married physician and his wife, both

working hard, can look after properly. Moreover, small homes have this great advantage, that they are not as widely known as the larger establishments, and the high-class drink-craver is not so averse to entering them.

But for inebriates of the cultured class, there is to my mind, as a physician, a still greater objection to Homes under the Act. The essence of good treatment lies in your being able to get your patient to enter *con amore* into your plans, in inducing him to treat you as it were as his partner in a scheme he has laid down for his own benefit. There should be the most thorough confidence between both. Suppose, for argument’s sake, you had a patient with you under the Act, suppose that one day he saw his chance of evading you while in the town and went off and got drunk. You pursue him, and after a wearying search you find him at the bar of an hotel sipping whisky punch. You invite him to accompany you home. He refuses. You say, “Well! you really must come!” Finally you bring into force the powers with which you are armed under the Act. You compel your patient to return under your roof. What, pray, are the relations thenceforward existing between you both? You are his gaoler not his confidential friend. He completes his time in your house and leaves you with the same feelings that a thief feels towards the governor of the prison in which he has been incarcerated. It would be a different matter if the length of time for which patients as a rule submitted themselves to the discipline of a Home under the Act were sufficiently long (say eighteen months) to allow the disagreeable reminiscences of this capture and forcible bringing back to the “Home” to have passed away. A physician ought in my mind to have the co-operation of his patient *entirely*. When a man becomes the gaoler, he ceases (in the mind of the inebriate) to be his physician.

One word in conclusion as to the importance of the physician who undertakes the difficult task of systematically treating the drink-crave, not only being himself a total abstainer—indeed he

ought to be a member of the Medical Temperance Association — but also insisting upon every member of his household being also a pledged teetotaler.

Much more has been effected by me through the influence of example than by any precepts or admonitions. In fact I seldom allude to the subject except it be introduced by the sufferer himself or herself. My patients see what an active vigorous enjoyable life I lead; how lightly the burden of well-nigh fifty years is borne by me, albeit in the earlier part of my medical career my constitution was put to a severe strain by a fever contracted in the West Indies. They see that hard work and brightness and activity, and thorough enjoyment of life, can be sustained without the so-called enlivening influence and support of wine and other stimulants. I believe that the lessons the patients learn in this way are better than any others that can be taught.

Before I sit down I should like to summarise some of the conclusions at which I have arrived as a result of constant clinical study during the last twelve years:—

(1) Drunkenness and inebriety ought not to be confounded.

(2) Inebriety is a lesion of the brain which has gone so far as to affect the will power.

(3) Successful treatment based on this pathological dictum must include the absolute cessation of alcoholic drinking.

(4) There is no danger in the sudden and complete withdrawal of alco-

hol if the case—no matter how severe—be in the hands of a skilful physician able to personally direct the hourly treatment from the first.

(5) The physician undertaking the charge of such cases ought to be a total abstainer, as well as everyone living under his roof, so that the moral treatment by example may supplement the therapeutic remedies.

(6) Permanent recovery need not be hoped for unless both lines of treatment be pursued systematically, during an uninterrupted period of twelve months in a "Home," from which every beverage containing the smallest quantity of alcohol is absolutely excluded. The first four months rarely suffice for the getting rid of the stomach and other troubles which are the result of the alcoholic poison; at the end of the second period of four months the patient begins to feel less the want of alcohol; by the end of the third period he has begun perhaps to understand that life may be enjoyed, and vigorous health secured without stimulants.

(7) So-called "cures" effected by bark, strychnine, iron, and other drugs, have not proved permanent.

(8) The permanence of a cure depends greatly on the after-treatment pursued subsequently to the patient leaving the "Home." The family of the inebriate, or the household of which he or she is to form a part, ought all to become total abstainers, no alcohol being allowed under any circumstances into the house except as a drug prescribed by a medical man and dispensed in a medicine bottle.



THE TREATMENT OF HABITUAL DRUNKARDS.

A SPECIAL meeting of the Medico-Chirurgical Society was held on Wednesday, 20th February, at No. 15, Shandwick Place, Edinburgh, for the purpose of having a discussion on the further legislative steps necessary in dealing with habitual drunkards.

There was a large and representative gathering of members of the medical and legal professions, under the chairmanship of Dr. John Smith, president of the Society. Apologies were intimated from the following:—Professor Sir Douglas MacLagan,

Professor Gairdner, Glasgow; Professor Muirhead, Professor Kirkpatrick, Dr. Morton, president of the Faculty of Physicians and Surgeons, Glasgow; the Solicitor-General, Sheriffs Ivory, Æneas Mackay, and Guthrie Smith, the Dean of Faculty, Mr. Charles Morton, W.S.; and Sir Charles Pearson.

The Senior Secretary (Dr. James Ritchie) stated that although several of these gentlemen had expressed themselves very strongly in favour of further legislation for the care of habitual drunkards, he would read only three of their letters. Professor Sir Douglas Maclagan wrote:—"I cannot now go into details, but I beg to express my cordial approval of the principles of Mr. Charles Morton's Restorative Homes (Scotland) Bill. To do any good we require to have complete power—under proper legal restraints—of saving these wretched people from themselves; and it appears to me that the legal requirements are ample for securing anyone against an infringement of that which is, as regards this subject, an intense humbug—the liberty of the subject. I really have some difficulty in seeing who can be injured by this bill. It cannot be the victim him or herself, whom we wish to save from ruin, soul, body, and estate. It cannot be his or her relatives, whom we wish to rescue from worry and misery. It cannot be our excellent asylums, both chartered and private, of which in Scotland we have so much reason to be proud, because, as the law stands, we cannot legally commit the habitual drunkard to their custody. Why, then, should not Parliament give us a chance, and enable us to show, as I am sure we would do, that with proper but safeguarded authority we could save these sad victims of that which we all recognise as a form of disease. I hope that the opinion of the Society will be in favour of extended powers, and that this bill, avowedly tentative, will be confined to Scotland." Mr. J. B. Balfour, Q.C., M.P., wrote:—"The subject is one the interest and importance of which cannot be over-estimated. I

should be very glad if anything could be done in the way of legislation to mitigate so great an evil." Professor Gairdner wrote:—"I am strongly persuaded of the absolute necessity of a change in the law with respect to habitual drunkards."

The PRESIDENT said those present would be aware that the special meeting of the Society that evening was called for the consideration of a subject of momentous and widespread interest and importance, both in a medical and a legal point of view. Many difficulties beset the medico-legal aspects of the matter, and the object now was not to bring forward individual cases, but to discuss the general question, and to aid the elucidation of those points which require deliberation in order to their being safely and judiciously met by any legislative enactments. The matter had already been brought before the Secretary for Scotland, and a bill drawn up in connection with it by Mr. Charles Morton, the late Crown agent for Scotland, and the difficulties which now seemed to present themselves more prominently for attention were those considerations and precautions in any measures being adopted for the ends in view. Such considerations would be recognised as those attaching to the admission of patients voluntarily or by compulsion or committal; the detention of patients of both classes, and what powers should be conferred for this purpose, and in whom they should be vested; the exact definition of what constituted loss of self-control—inability to manage one's affairs or danger to self or others; and, lastly, what modifications would be required in the case of occasional, contrasted with habitual and continuous, inebriates.

Professor GRAINGER STEWART opened the discussion. Having first alluded to the attention which the subject engaged more than thirty years ago at the hands of distinguished members of the Society, he went on to say that, in his opinion, the Council had arrived at a right conclusion in saying that now the time had come for a somewhat formal discussion of the

question, seeing that on the one hand ten years had elapsed since Dr. Cameron's Habitual Drunkards Act came into operation, and that, on the other hand, many members of the medical and legal professions in Edinburgh had had the opportunity of perusing the draft bill prepared by Mr. Morton, W.S. The difficulties in dealing with this matter, continued Dr. Grainger Stewart, were practically two—viz., that on the one hand it was so easy to demonstrate the need of something being done, and that on the other hand it was so very difficult to devise the proper thing to do. Professor Grainger Stewart sketched the symptoms apparent in different forms of intemperance, devoting particular attention to that class of persons—habitual drunkards—with whom the craving for drink was absolutely irresistible, and who seemed to lie unblushingly in regard to everything save their inability to resist their craving. He also showed how the annals of the Police Courts proved repeated convictions for habitual drunkenness. The point which he would like to insist upon was that in these cases there was opportunity of seeing something of what might be done by way of punitive imprisonment in checking or attempting to check the evil. The result had been absolutely nil, and he presumed that even men with such long medical practice as Dr. Littlejohn had, could scarcely be able to afford any, or, at all events, certainly not many, examples of people who, under these conditions, had been rescued or really been cured of their temptation to drink. There was, of course, a difficulty in attempting to make a satisfactory definition, but it was not difficult to recognise the case he referred to in practice. The House of Commons Committee of 1872 had given a definition so far as definition was possible. They had described the class as including those who, notwithstanding the plainest considerations of health, interest, and reason, were given over to habits of intemperance, which rendered them unable to control themselves and incapable of managing their own affairs, or such

as rendered them dangerous to themselves or others. From observations at home and abroad a considerable amount of evidence had been accumulated, which seemed to show that these cases might be rescued, if they could be kept away from drink for a considerable time, and be absolutely unable to get it in any way. He quoted statistics of restorative retreats, which went to bear out this argument. For instance a Government report for 1887 stated that in the Westgate-on-Sea retreat two-thirds of the patients discharged were permanently cured. He emphasised the fact that it was not for the mere tippler, or for such cases, that it proposed to legislate, but for those who were on the borderland between vice and a form of insanity. Practitioners knew such cases well enough, and could judge from general medical experience of the kind of case in which treatment was likely to prove useful, and in which it would be warrantable to deprive a patient of liberty for a certain definite time. At present there were two pieces of legislation which had practical bearing on the question. Under the first the privilege was accorded to drunkards of becoming voluntary inmates of the ordinary asylum. He had known of people who had been rescued in this way, but he considered such treatment good neither for the inebriate nor for the insane, and very often patients would not be persuaded to go into an asylum. The other piece of legislation was Dr. Cameron's Habitual Drunkards Act, which had been passed in 1879, which had been passed in a modified form, so that its efficiency had been greatly diminished; but it made arrangement for the establishment of homes, and the voluntary admission to these. This voluntary principle had been the deficiency in the working of the Act. Dr. Grainger Stewart went on to describe Mr. Morton's draft bill, which, he said, proposed to deal only with Scotland, and only in the meantime with those who were able to pay a moderate board. Mr. Morton proposed, he said, that the Lunacy Board should have the power of making arrangements with

regard to the establishment of certain restorative homes in a central position in Scotland, or in several districts in Scotland; that the Board should also have the power of arranging scales of charges, and making certain general rules for guidance; and that patients should be admitted to these restorative homes, either voluntarily—they themselves submitting—or after going through a far less formal process than that which was required by the Habitual Drunkards Act; while he also provided various precautions for the protection of the liberty of the subject. In concluding, Dr Grainger Stewart said that all the study he had been able to give this subject satisfied him that there was great need for something being done for the protection and help of this particular class of people; that the existing legislation, although good so far as it went, was not sufficient really to meet the case; and that something in the line of what so skilled a lawyer as Mr. Morton had drawn up, might afford a basis upon which their legislators might proceed with great advantage in endeavouring to deal with the question.

Dr. YELLOWLEES, Gartnavel Royal Asylum, said he took it that the main object of their meeting was to let the public know that the cases they all had in their mind demanded far greater care than they could now possibly give to them. They were all agreed that the only hope with these habitual drunkards was enforced abstinence, and that the abstinence was perfectly useless unless it was prolonged for a very considerable time—for a year at least. They were all agreed that their present mode of dealing with such cases was a miserable failure. One way of dealing with a habitual drunkard was to endeavour to make him a voluntary patient in a lunatic asylum—that was if they could get an asylum manager good-natured enough to receive him. For his part he had habitually and deliberately refused such cases; they had no right to impose the company of such liars and mischief-makers upon respectable lunatics. Another way was to practically banish the habitual drunkard to a remote part

of the country; and still another miserable recourse was to send him abroad, where he would drink himself to death without disgracing his friends. Having affirmed that existing legislation on this subject had proved a grotesque failure, Dr. Yellowlees proceeded to express the opinion that Mr. Morton's Bill was too good. He had no hope, however he might desire it, that many of its provisions would be carried into effect. If it was the case that the assessment clauses were dropped, the only difference between Mr. Morton's Bill and the Habitual Drunkards Act lay in the compulsory clause. He suggested, in effect, that that compulsory clause might be added to the existing Act with beneficial results.

Dr. PEDDIE, who was the next speaker, expressed his opinion that so far as he was able to judge, having given the subject a good deal of attention, a better preamble than that of Mr. Morton's Act could not have been constructed, and he did not know if they could get a better Act than had been founded upon it. He proceeded at some length to describe the effects of alcoholism, and he gave instances of the connection between alcoholism and brain disorder. He unhesitatingly declared that in a considerable number of cases such disease was curable, and that that would be the case in a larger proportion with special legislative arrangements. Dr. Peddie further contended that any arrangements for the establishment of homes, unless providing easy voluntary admission, and, if need be, compulsory enforcement of powers for detention, must cripple and almost nullify legislation for individual or relative benefit. His opinion was that the safeguards afforded by the Bill were amply sufficient for the protection of the liberty of the subject, and all interests connected with individuals, families, and the public.

Mr. TAYLOR INNES, advocate, said he had a strong belief, on the general question, that there ought to be no serious difficulty in the way of such a measure as they were dealing with. Nor did he believe that public opinion would interpose serious difficulty to

its passing. That, however, would only be upon the understanding that all precautions were taken to satisfy the public conscience that nothing beyond what was absolutely necessary was to be done in the restraint of the liberty of the subject. The main point in which this draft Bill differed from Dr. Cameron's Act lay in its giving power to a man's family to propose that he should be subject to detention; but while he thought the intention of the provision good, he did not think the public would consent to a man's detention without full and fair intimation having been first made to him. Nor did he see why they should stick to the hard-and-fast line of twelve months' detention in all cases. This was a medical question, and medical men would find that lawyers would readily defer to their opinion. They should think well before proposing to repeal the Habitual Drunkards Act. Might they not consider whether they should not retain the existing Act, and add to it the clause giving to a man's relatives as well as to himself the power to propose detention?

Dr. BATTY TUKE said that, not being quite so hopeful as the other speakers, it might appear that he wished to throw cold water on the subject. No one, however, knew better than he the misery caused by habitual drunkenness, and no one was more desirous than he to find some remedy for it. At the same time, he wanted the Society to look straight in the face many inherent difficulties in the question. He took up the position of Dr. Peddie that dipsomania might be a symptom of various forms of disease, and he thought they were entitled to ask that some measures should be taken in the case of disease, but he was not prepared to admit unreservedly that dipsomania and habitual drinking were synonymous, or that habitual drinking was a disease. He thought habitual drunkenness might be purely vice. In certain cases where there was an indication of insanity, he thought they might be justified in asking for legislative power of control. But who, he asked, was to decide between insanity and vice? He thought

it was not the doctor or any individual. It must be determined by a Court. He thought, in any representation which the medical profession should make to Parliament, there should be full representation of the medical facts. And one fact which he emphasized was that a dipsomaniac could not be cured in a short time. His experience was that two years at the very least were necessary, and he asked whether the public would ever consent, in the present state of public opinion as to drinking, to allow a Bill to be passed by which a man for mere drinking was to be incarcerated for two years? They were told that 30 per cent. recovered, but what was to become of the balance? Were they to be imprisoned for life? His opinion was that if they were proved to be insane they should be sent to public asylums. But supposing they did obtain the machinery they wanted, how were they to apply it? It was only to be applied to those suffering from the ultimate symptoms of alcoholism; but the description given in the Bill would apply to hundreds of thousands of cases. Then, were they going to apply it only to the vice of drunkenness? for the same results were brought about by other forms of vice. He would be happy to support an Insane Drunkards Bill, but not an Habitual Drunkards Bill. He thought the medical profession would do a great deal more in the way of aiding temperance if, instead of applying for some relief in the last stage of alcoholism, it would apply itself to some rational reform in the licensing laws.

Mr. F. T. COOPER, advocate, said it appeared to him that Dr. Batty Tuke objected to the Bill because it could not do everything, whereas it was always recognised that half a loaf was better than no bread. Although they might not be able by the Bill to root out drunkenness from the land, they might be able in some degree to alleviate the sufferings which resulted from it. He replied to other criticisms of some of the preceding speakers, and suggested various verbal rather than substantive alterations in the measure.

Dr. LITTLEJOHN said he had never known of a single case of cure being effected by residence in gaol, for the very good reason that the sentences were too short. He had a very strong feeling that the Bill of Mr. Morton did not go far enough. He thought the time had gone by for any special legislation for any special class. Had they not extended the franchise, and were not the working classes now alive to their rights, privileges, duties, and dangers? Were they, then, going to make special legislation for a higher and better class of society? He was clearly of opinion that this Society should go in for legislation in the interests of every member of the community. He did not believe in a man going and delivering himself quietly into one of those homes. A man might wish to disguise himself for a few months, and in he might go. No person should be admitted unless he has been before a Sheriff—let it be *in camera*—and had his statement taken down that he was voluntarily depriving himself of his liberty for a certain period of time. Dr. Littlejohn also thought the inmates of these Homes should be set to the work for which they were best adapted, rather than be allowed to pass an idle life.

Dr. CLOUSTON, speaking on the general question, said they would be wise in the first place to limit any action they might take to that form of drunkenness which they could scientifically reckon to be disease; and secondly, he thought they ought to petition in the direction that Mr. Taylor Innes had suggested, to extend Dr. Cameron's Act. He argued that in certain cases drunkenness was a disease, and strictly analogous to other forms of disease, and in its causation the question was mixed up with real insanity; but he differed from Dr. Batty Tuke in the view that the ordinary asylums were the proper places for such patients. It had been his experience that in the case of persons labouring from that particular brain disease, it did not do to mix them up with the ordinarily insane; and he submitted as a test between the dipsomaniac and the ordinary maniac, that

when a case of ordinary insanity recovered they only detained it long enough in the asylum to see that its future convalescence was assured. He did not think they were in a position to speak dogmatically in regard to the question of cure. They had never had the opportunity of putting a man under the proper conditions; and he thought they must face not only the case of the confirmed drunkard, but they must ask for power to take care of the drunkard at the early stage of his disease. There were, no doubt, objections to be faced, such as the question of the liberty of the subject, but if the dipsomaniac interfered with society he would have to go to the wall along with his liberty. There was also a difficulty to be faced in the question what was to become of the poor diseased drunkard as well as the rich? If the Legislature taxed us for reformatories, he did not see why the diseased drunkard in the early stage of his career should not have a chance. In making suggestions for treatment Dr. Clouston argued that they must restrict the size of their restorative homes. It would not do to put many of these people together.

Mr. SHAW, advocate, said he agreed almost entirely with the remarks of Mr. Taylor Innes. He thought that instead of trying to get the elaborate preamble of the draft Bill through Parliament a simpler way would be to propose to add to existing legislation the compulsory power provided for in what was practically section 17 of Mr. Morton's Bill.

Dr. CONNELL, Peebles, speaking from experience acquired in the institution with which he is connected, emphasised what could be done in the way of curative treatment, especially where attention was paid to moral discipline.

Dr. STRACHAN, Dollar, spoke of the great need of something being done to cope with the case of habitual drunkards. In the course of his remarks he said he thought it was the strong drinks, such as whisky and gin, which produced craving, and it would be well, he said, to have these classed as poisons.

Dr. ANDREW SMART gave some statistics regarding Ward No. 6—the “D.T. Ward” of the Royal Infirmary, as it was called—since it passed into his charge three years ago. Out of 1,770 patients who had passed through the ward in that time 1,262 were alcoholic cases, and of these there had been 115 sent to the Asylum. He found it was possible to obtain certificates from the medical men who were sent to examine patients for admission to the Asylum only when they had reached that stage of the disease in which the pathological conditions described by Dr. Clouston had been obtained. The average age of the cases sent to the Asylum was between thirty-four and thirty-five years, and the time taken to acquire the particular qualification varied from ten to fifteen years.

Mr. W. C. SMITH, advocate, and

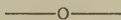
Mr. J. P. COLDSTREAM, W.S., discussed some of the legal bearings of the question.

Professor SIMPSON moved the following resolution:—

“That the Society memorialise the Secretary of State for Scotland and the Lord Advocate, praying the Government to initiate legislation for Scotland in the ensuing session of Parliament on the lines indicated in Mr. Charles Morton’s draft Restorative Homes Bill, or in other ways that may seem to them in their wisdom to be more desirable, to provide compulsory powers of control and detention of habitual drunkards in properly regulated houses.”

Dr. LITTLEJOHN seconded, and the motion was agreed to.

The meeting ended shortly before half-past eleven, having lasted nearly three and a half hours.—*Scotsman*.



ALCOHOL: DISTURBER, DISORGANISER, PARALYSER, AND NARCOTISER.

SPEECHES BY DRs. NORMAN KERR AND B. W. RICHARDSON.

THE large audience that assembled at St. Mary’s Hall, Crawford Street, Marylebone, on Monday evening, 21st January, were for nearly two hours instructed from the physiological side of the alcohol question by the two most apt teachers of the time—Drs. Richardson and Norman Kerr. The first-named gentleman simply presided, but at the close of the lecture of the latter added the great weight of his opinion to the remarkable series of facts which were stated purely from the scientific side, and without any appeal whatever to the emotional feelings of the hearers.

Dr. NORMAN KERR, in the course of his extremely able and we might call it fascinating address, said: I will simply discuss this matter to-night as it may interest the outside public. There is a foundation or there is not a foundation for the temperance movement. Whether that movement may

arise in attempts at the reformation of the intemperate; in the promulgation of Bands of Hope; in the prevention of intemperance by the suppression of the liquor traffic by the community and the nation; in the shortening of the hours of sale, or in any of the departments of temperance work—either the whole of temperance work is founded upon scientific truth, or it is not. If it is not so founded, then no matter how illustrious are its defenders, and how marked and rapid its success, that movement will come to pieces as sure as the marks we have made on the sands of the sea-shore disappear before the incoming tide. On the other hand, if it is in accord with science, then in spite of the opposition of the world, the flesh, and the devil, all the principalities and powers of earth, all the churches, and all the doctors and Parliaments, this movement, however the tide may flow

or recede, must go on to success; for if it is founded on scientific truth, on the laws of nature, which are other words for the laws of God, and if founded on the laws of God they cannot by any possibility be overturned by any human ingenuity whatever. I will, therefore, simply discuss the action of alcoholic liquors upon the human frame. You, sir, have well shown that the more we keep within the strict points of truth the more enduring will be the effects of our advocacy in any cause we may take up. If we go beyond ordinary human proof, by so much we weaken the permanent progress of the cause we have at heart. I now proceed to inquire as to the action of alcohol upon the human frame.

First of all—whatever else alcohol is, it is a *disturber*. It is so in ordinary life. There is a large and well-manged workhouse not far from here where practically no alcohol is allowed. The inmates number 1,500—about the population of a good-sized village—and if you introduce a bottle of whisky into the hands of any of the paupers you introduce a disturbing element, and as sure as you introduce it you will very shortly find disturbance in that community. Take even a company of doctors at dinner, and it is the same. I have seen in medical, clerical, legal, and ordinary dinners, some person who has had to be removed from the rest, and on one occasion I saw all the rest of the company rise and leave the solitary disturbing element alone. Alcohol is, from the first, a disturber of the living economy. Take, for instance, the sense of sight, which is, perhaps, the first we use. I am not going into technical experiments, but what is the effect upon the sight? It is at once disturbance. "They see double." Some see what never happens. Some will appear in the witness-box and swear that such and such a person assaulted another, whereas nothing of the kind has taken place. Yet they were quite honest, but alcohol disturbed their vision; so it acts in another way, by contracting the sphere of vision. The eye cannot contract and expand and fulfil its office

of seeing as far after a small dose of alcohol as it ought to do. I have known a captain at dinner take a single glass of wine and then not find that he was making towards Sable Island, where, but for the providence of God, we should have been shipwrecked; but this captain was not drunk, and I have seen similar instances. Now, I have nothing to-night to say against drunkenness; my business is simply with scientific fact. There is also a distinction after taking alcohol in the matter of detecting colours. I have seen such mistakes also at sea by officers on the look-out, who really were not apparently under the influence of drink. I recollect in the Atlantic one huge liner and our vessel really chasing each other in a circle. The only way I can account for it is that my friend had been taking a glass or two of wine at dinner, and the result upon him was that though he did not become a teetotaler, from that hour and henceforth he made a resolution never whilst he was at sea to take any intoxicating drink—never until he came on shore. Then the sense of hearing is disturbed. As Dr. Richardson has shown by his experiment with the audiometer, about half an ounce of pure alcohol has the effect of diminishing in a marked degree the power of hearing of several persons.

Dr. RICHARDSON: The diminution was 33 per cent. on the scale adopted. At that point on the scale the hearing became confused—confusion certainly began then, but with the attention called to this some of the persons could go down the scale to perhaps about 5 per cent. Again, when we speak of the effects of small quantities of alcohol, it should be remembered that we are speaking of those effects upon persons who are not accustomed to take it. They are very often confused during these minute experiments. It is upon them that these rapid effects of alcohol take place.

Dr. KERR: The general effect has been that those persons do not hear as well as they did before. There are other contributing reasons, but they only aggravate the mischief that has been done. The point is that the

sense of hearing in men, women, and children is markedly diminished by a small amount of alcohol. Then, paradoxical as it may appear, the sense of hearing is very often increased, because we know when a person is under the influence of alcohol he very often hears a good deal that never takes place, as in delirium tremens. So is the sense of smell interfered with. It has long been said that if you go into a place where there is a bad smell you are proof against it if you take a little alcohol; but the only scientific reason is that the sense of smell is rendered less acute. You will not smell a bad smell so much if you have taken alcohol, but it is there all the same. In the same way alcohol diminishes the sense of touch, and does so according to the quantity taken. This is why people talk about keeping out the cold by taking alcohol. I have seen men again and again never feel the cold after they have taken a "fortifier" before they went into the extreme cold, say, of 40 to 70 deg. below freezing: they have not felt it because they have never woke again—they were frozen dead. You can keep out the cold thoroughly by taking enough alcohol to prevent you feeling it at all, and if you even take a single glass of sherry it will make a marked difference; but in a few minutes the effect wears off, and the person is colder than before. The experience of Arctic travellers proves this. Again, you will not feel the heat so much in a warm climate for about ten minutes if you take in India what they call "a peg." This expedient makes no difference to either the cold or heat—they are simply disguising them, and diminishing their sense of feeling. Then, there is the sense of taste. It is not so refined and delicate after alcohol. I have seen the experiment tried again and again. My great effort is to incite you to examine these questions for yourselves, and find out the truth, and then your responsibility will be to bring your lives into accord with the laws of nature and of God. There are many other ways in which alcohol is a disturber of the human organisation. It disturbs the function of the heart.

Parkes found that a single ounce of alcohol and water in the day caused the heart of a healthy young soldier to beat 8,172 times more in the twenty-four hours than it would do without alcohol. Suppose the dose be increased—what an enormous amount of unnecessary work to throw upon the heart! I can tell you that my daily duties disturb me quite sufficiently without adding to the work of the heart the work that would be caused by the taking of alcohol. Then there is the disturbance of the brain function which we see every day of our lives. Alcohol, whatever else it is, is a disturber of the living human economy.

Besides being a disturber, it is pre-eminently a *disorganiser*. If there is any power of disorganisation on earth it is that of alcohol. By disorganisation I mean the breaking down of the construction and function of organs. Take the heart. You know the office of the heart, and I have already spoken about it. Alcohol has disturbed its function. By the action of alcohol upon the heart it in all probability loads the walls of the heart with degenerated fat. It makes the heart a great deal weaker. The alcohol affects the structure of the heart and fills it with unhealthy fat. We see it almost every week when we examine the bodies of persons who have died of alcohol. They are loaded enormously with fat which should not have existed in healthy organs. Not only does it disorganise the heart, but almost every other tissue and organ of the body. Hence we have, in the case of the liver, the nutmeg liver and the hobnail liver, which means that the organ is so depraved that its naturally elastic, beautifully yielding tissue, is to a large extent gone; and half a liver or a quarter of a liver can never do the work of a whole liver. In this way alcohol is a disorganiser. It degrades and deteriorates the structure of the liver and a large number of vital organs in addition. How can we get on if there is the presence of such a powerful disorganiser introduced several times a day. The result must be interference with the organic struc-

ture. Then there is the kidney which is markedly interfered with by the action of alcohol; but let us go at once to the brain, where the action of this agent is most terrible and marked. People say inebriety is a moral vice and not a disease. Over and above all the immorality of it—if there is immorality—there is underlying an amount of physical disease which is eating through the vitals of the Church and State in this community. Little hope would there have been for the nation if there had not been this move against intemperance, but we see that Church and State alike are daily realising more and more that they must grapple with this curse, or that as a nation we are lost.

The early workers saw that they were being poisoned, and they said, "What nonsense it must be of us to take that which poisons us;" and the foundation which they laid for the movement is the only one upon which it can ever repose as a solid basis. It is quite shocking to see the brains of some persons—not necessarily those who have died from drunkenness. Alcohol has a peculiarly disorganising effect upon the tissue of the brain—the result being that if you take the cells of the brain you find that the tissue that keeps all the cells in position is greater than it should be. The capacity of the skull is not greater, and if the tissue keeps pressing and growing, it squeezes in the thinking part of the brain, the result being that the brain cells are contused; their shape is altered, and the result is that the thinking cannot be as good as it ought to be. If the chairman, for example, had been going on taking a moderate amount of alcohol, he could not have done the work he has done in the last few years. We know very well that there are many men in London, some of high position, and superior in every respect—and what is their position? For a time they go on well; they can keep from their cups, and they are all that is noble, gallant, and true. Now and then a time comes, and unless a good friend takes them away and puts them under lock and key for a day or two—a friend who

understands the physical aspect of their case and of this question—they cannot restrain their desire for drink. Why? Because the brain has become disorganised. There are as truly in the brain the footprints of alcohol as are to be seen in the liver. We are only at the threshold of this department of our great subject. The time is coming when the scientific world will be amazed to know that alcohol as truly and as physically is a disorganiser of the structure of the brain as it is of the liver, or of any other of the coarser organs of the body.

Alcohol is also a *paralyser*. Here we come again to the dinner party. What is this flush that we see on the face of the drinker of wine? Is it health? No, it is paralysis of the vaso-motor nerves. There is a sort of congestion. The blood is, as it were, stagnating in the cheek, and the result is a paralytic flush of the countenance. It may appear the perfection of good health, but it paralyses for all that. You go a stage further, and persons get drunk—some in their heads and others in their legs—for it affects different persons differently. There was a famous statesman, whom I have heard, and who is now dead, who was drunk in his legs, but could deliver a perfectly good speech, clear and logical, if only he were supported by friends on either side. Let that support be withdrawn, and he fell to the ground. Sometimes it is paralysis of the tongue, and then you have that thickness of speech which you must have noticed in the person said to be under the influence of drink. There are degrees of paralysis, complete paralysis meaning death; when you have paralysis diffused all over the body and incomplete, it is dead drunkenness. Again, I say I am not talking of morality, but simply appear here as a scientific witness to interpret the laws of nature and of fact. Alcohol has, indeed, a paralysis of its own, and a great many attacks formerly debited to lead are now found to be due to liquor. It has been almost impossible to get people to believe that that drink which poetry has sung in praise of,

and around which there has been cast the halo of homage and of custom, can end in that horrible thing called paralysis.

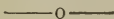
Alcohol is a *narcotiser*. This is, perhaps, the most terrible effect of all. Some people think that narcotising is a capital thing, especially in the midst of the cares and perplexities of life, and unquestionably alcohol is the greatest narcotiser known to man. Chloral, opium, &c., are being used more and more every day, but alcohol leaves them far behind. These narcotics follow the civilised world, not the savage world. What is a narcotic? It is something used to produce a torpor of the nervous system. It actually blinds you to what is going on within you. It does all its bodily and brain mischief by blinding you to the actual facts. Is it not right that you every now and then have a breathing space from the ordinary course of temperance work in order that you may stop to consider whether in your enthusiasm you are marching on the true paths of science, and seeing whether the position you have taken up is tenable? Enough has been said to show that scientifically you are right, and to reveal the evil influences of alcohol upon the human system—influences which we know too well are handed down to posterity. I have shown you that alcohol is a substance which disturbs, which disorganises, which paralyses, and which narcotises. If you have embarked in this cause of temperance, I ask you to go forward in it with greater energy than before; but if you are indulging, however moderately, in such an agent, I think I have proved to you that you should do so no longer if you are to allow yourself to be guided by the dictates of common sense.

The CHAIRMAN said the lecture was admirable and clear in all its points, and with the slight corrections he had made he endorsed all that Dr. Kerr had said. The lecturer had kept close to his subject, and had not wandered. He had not spoken as one who wished to leave the impression that he was a brilliant orator, but had achieved the more difficult and more useful task of

saying such things, and in such a way, as would leave their indelible impression upon the mind. He quite supported the lecturer in his definition of alcohol as a disturber. He was forty-five before he became an abstainer, and that was fifteen years ago; but he was readier, clearer, and stronger, and more enduring for work, than fifteen years ago. He also confirmed every word Dr. Kerr had said as to alcohol producing paralysis of the brain. The effect of alcohol upon the brain was most remarkable. He had made an experiment on the brain of the sheep to see the amount of alcohol that would be absorbed, and he found there was a most remarkable affinity between alcohol and nervous matter. A combination took place which was of the firmest kind. He had tried to distil the alcohol back, but never recovered the whole of it. The subject, however, required following out. Dr. Kerr had mentioned the effect of alcohol on the tissue of the brain. It found as it were, a home in the brain, and seemed there to change the character of that wonderful organ, and then followed the other changes to which Dr. Kerr had referred. This was first discovered by a man who was not a total abstainer, but who was just trying to discover the causes of disease. In the same way he (Dr. Richardson) had discovered alcoholic phthisis. He thought the progress made by the cause of temperance very satisfactory. Dr. Kerr had referred to medical dinners, but they were not what they used to be, and seldom indeed were they given at all. The profession was beginning to open its mind to a true understanding of the effects of this agent upon the human frame. They were also willing to admit that people could live well without intoxicating drinks, and he did not know the doctor now who would hesitate to give that opinion. They were ready to make other admissions in favour of total abstinence life and practice which they would not have done twenty years ago. When he and Dr. Kerr sought to show that the direct mortality from alcohol was 10 per cent. per annum, they were laughed at, and

a society was formed in this neighbourhood to test the accuracy of their conclusions, but the results brought out were just about the same. It was also owned by the profession that alcohol was a great cause of disease, and that in cases of accident especially, teetotalers were much better patients to treat and cure than moderate drinkers. This was strikingly exemplified in the case of the Muswell Hill burglary. The medical men who attended the unfortunate gentleman who was shot said that, inasmuch as he was a non-smoker, a total abstainer, and had lived a regular life, his chances were greatly enhanced. If the doctors had primed him with brandy, as under the old regime, the patient would, in all likelihood, not have been alive to-day. Nature was chiefly allowed to perform the cure, and he was now in a fair way of recovery. All these things

showed that the profession was going in the right direction. He had lost a great deal by his adhesion to the cause, but now there was beginning to be a turn in the other direction, and he was called in often to strengthen the view of the doctor who wished to combat the desire of his patient for alcohol when the doctor did not think it desirable to prescribe it. There was a general reaction against the wholesale administration of alcohol, and it was increasing day by day, and would still increase. This was a hopeful sign for the temperance cause and for the world at large, but mostly for the great profession to which he belonged, for it could not afford, in the matter of the health of the community, to stand behind. It must be in advance, or it must fall for ever. He believed it was going to advance.



THE PATHOLOGICAL AFFINITIES OF LEAD AND ALCOHOL.*

By NORMAN PORRITT, *Honorary Surgeon, Infirmary, Huddersfield.*

I PURPOSE to lay before the Society some account of the cases of plumbism I have seen, and it will pave the way for those cases and the deductions I make from them if we briefly consider and compare the pathological effects of alcohol and lead. Noticing, in the first place, that both alcohol and the salts of lead coagulate albumen, we may, for convenience' sake, divide their actions into two great groups—(1) the excretory group, and (2) the nervous group.

Turning first to the excretory group of phenomena, we are at once confronted by the action of these substances on the kidneys. Each is a recognised cause of albuminuria, each can play a part in the causation of granular kidney, whilst the subtle

power of each to initiate or develop gout is well known. In short, each damages the kidneys, and may set up not only temporary and functional disorder, but even ineradicable organic renal disease. On the other excretory organs, the chylopoietic viscera, the actions of alcohol and lead, though analogous in their ultimate results, are different in their *modus operandi*. Alcohol attacks the liver; lead, the bowels. Alcohol encourages secretion from the mucous tracts; lead diminishes it. But the increased activity of the alcohol-stimulated mucous membrane is more than counterbalanced by the diminution of oxidation which is taking place in the rest of the body. This diminution of oxidation has a counterpart in the case of lead, for, according to Dr. Lauder Brunton, lead has the power of checking the elimination of uric acid.

Both lead and alcohol have a special, a peculiar, and a well-known action

* From a paper read before the Leeds and West Riding Medico-Chirurgical Society, December 7, 1888.

on the nervous system. Alcohol is eliminated from the system much more easily and more rapidly than lead, and we are not so familiar with its paralysing effects as in the case of a poison which, like lead, slowly accumulates in the body. As is well known, however, paralysis from alcohol, when given in a dose too large for the excretory organs to get rid of, or when administered in smaller quantities over a long period, is not uncommon. The effects of alcohol are essentially paralytic, as are also those of lead, and there is not only nervous or muscular paralysis, but there are, if I may coin a phrase, excretory and metabolic paralysis.

Then alcohol and lead resemble each other in both being elective poisons. Some men are made tipsy by a quantity of drink which would do no more than serve as a thirst-quencher for others; and, on the other hand, of two individuals imbibing a plumbic solution, the one may suffer the throes of colic, whilst the other escapes any unusual manifestation. Lead has little or no elective affinity for children, or the numerous children of our lead-poisoned patients would surely suffer. Of twenty-two cases of lead poisoning which have been under my care, fourteen were males and eight females. Of the eight females three only suffered severely, and they were all above the age of sixty. The conclusions from these facts are that lead has a greater elective affinity for men than women, a greater elective affinity for women than for children, and a greater elective affinity for old than for young women.

Without denying that there is such a thing as elective action, I would suggest that by professing to explain the way in which lead singles out one of several individuals by the term "elective action," we are in many cases merely glossing over our ignorance by a plausible and pretty figure of speech. There must be some causes for the elective action of lead, and, although in many cases they may elude us, let us endeavour to search for them, and not take refuge in such an empty phrase as "elective action."

I suggest, then, as one explanation of this elective action, that whatever hinders metabolism or checks excretion will enhance the susceptibility to lead poisoning. Children with active metabolic processes and vigorous excretory organs rarely suffer. Women, whose kidneys are less often afflicted with Bright's disease than those of men, are less frequently the subjects of lead poisoning, whilst my own cases suggest that young women suffer much less severely than old ones. *A priori* there is a strong presumption that men, from more frequent exposure to sources of poisoning, should suffer more often than women. But this presumption can only be held when the cases of workers in lead are considered. In my twenty-two cases one man and one woman were poisoned by lead other than that derived from lead service pipes. Twenty cases remain—thirteen in males and seven in females, or not quite two to one. In all these cases the source of the lead, or chemical examination, was found to be the drinking water.

Now, in cases of poisoning from a water supply, it is the wife, and not the husband, who is the more exposed to the poison. She spends the greater part of her time at home; she takes all her meals at home, and often takes supplementary meals or cups of tea when her lord and master is at business. It is, therefore, much more likely that she and her little ones will imbibe more of the toxic material than her frequently absent spouse. The point was illustrated in the case of *Milnes v. the Corporation of Huddersfield*. The plaintiff, a solicitor in Huddersfield, being lead-poisoned, sought for the lead, not in his domestic water-supply, but in the water-supply at his offices in the town. The lead was ultimately discovered in the domestic water supply which was used by the whole family, but which Mr. Milnes did not suspect, as after breakfast he spent the whole day from home at his offices and business in the town. Notwithstanding, my cases show that more men are affected than women. What is the explanation of this unexpected disproportion? If the lessons

of my twenty cases have been rightly understood, I have a clue to the explanation in the greater alcoholic consumption of the male sex.

In the case of *Milnes v. the Corporation of Huddersfield*, Dr. Clifford Allbutt, who appeared on behalf of the plaintiff, was asked, "Have you noticed where people drink spirit-and-water there is a tendency to poisoning?" He replied as follows: "That I have found particularly, and it has struck me in many cases. I do not for a moment think or suppose that the spirit has anything to do with it, but it adds a considerable bulk of water, especially as I dare say in these cases the spirit was not taken very strong, but with a good deal of water, and it adds a very considerable amount of water to the daily ingestion. Two tumblers of spirit-and-water, for instance, which many men might take at bedtime, would add a very considerable amount of water to the ingestion, and it might be that the poison was met by the elective nature which it seems to have." Dr. Clifford Allbutt's explanation is lucid and logical, as his explanations always are, but it altogether fails to account for those cases in which beer, and not spirits, has been the intoxicant.

Examining my thirteen male cases more closely, I find that one died with all the symptoms of abdominal obstruction; two had wrist-drop; two had general convulsions, with more or less complete unconsciousness. The remaining eight cases suffered from nothing worse than colic, though that is bad enough. All the eight colic cases occurred in working men, and in every case but one there was no evidence to show that the patients were otherwise but steady and usually abstemious men; indeed, one was a total abstainer. Of the five severe cases, three were drunkards or "soakers;" the fatal case was that of a man who worked as a cloth-finisher in a very hot room, had the pot-belly of a drinker, and always drank beer, although his wife never knew him to be the worse for liquor more than three times. Of the two cases in which there was wrist-drop, one man is known to be unsteady,

and, though preferring beer, never turns up his nose at spirits. The other wrist-drop case is employed at a hotel, where the opportunities for getting drink are many. Then we come to the two cases where general convulsions with unconsciousness occurred. One of them caused me much anxiety, and when the man's condition was at its worst, as I was leaving his house a neighbour stopped me. The neighbour, after inquiring after my patient, asked me where the lead came from that was poisoning him. I told him the drinking water. He shook his head doubtfully, and said he was sure it could come from nowhere else but the tap of the patient's beer-barrel, the beer having taken it up as it ran from the barrel. The hint thus given was followed up, and I elicited that the patient had drunk beer to excess for some time before I saw him. In the other case with convulsions a similar history was discovered. These men were respectively twenty eight and thirty-two years of age, and seemed vigorous, healthy men. One I have lost sight of, but the other occupied the same house for three years after his illness, became a teetotaler, and has had the best of health. In none of these five cases was any other inmate of the house affected, although at one house the drinking water contained as much as 1·3 grain of lead per gallon. Each patient was married and has a family, and their occupations did not bring them into contact with lead.

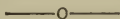
Alcohol, then, has a very powerful influence in intensifying the effects of lead. My friend Mr. Abbott, late of Almondsbury, tells me that the worst case of lead poisoning he has seen is that of an inebriate painter; whilst a practitioner in a neighbouring township, where an epidemic of "water-supply lead poisoning" is occurring, assures me that the case of the landlord of a beerhouse is the most severe one he has had under his care.

Although Dr. Clifford Allbutt has observed the frequent concurrence of spirit drinking and lead poisoning, he thinks the increased ingestion of lead-laden water which is taken with the

spirit explains what is evidently not a mere coincidence. Here I should join issue with Dr. Clifford Allbutt, and allot a considerable share of the toxic work to the alcohol. As we have seen, both alcohol and lead interfere with metabolism and check excretion. The result is: the alcohol locks in the lead; the lead chains up the alcohol. A combination like this accentuates the action of lead, or produces a hybrid sort of affection, partly alcoholic and partly plumbic, as in the two cases with general convulsions.

My cases, justify, I think, the views I hold, but my contention is further strengthened by a knowledge of the remarkable way in which the kidneys excrete lead. In one of my cases I was uncertain whether the patient was suffering from plumbism or hidden malignant disease. To decide the question, I had, not only the drinking water, but the patient's urine, analysed by Mr. George Jarman, F.I.C., the

borough analyst. His report was that the drinking water contained 0·8 gr. of lead per gallon, the urine 0·28 gr. of lead per gallon. Thus the patient's urine contained such a proportion of lead as would have caused poisoning if present in drinking water. When we bear in mind the albuminuria of inebriety, fluctuating with each increase or diminution in the alcoholic consumption, and disappearing, perhaps, during the abstemious intervals, and when we remember that a great outlet for the excretion of lead is the kidneys, we must allow that there is an *a priori* probability that the combination of lead and alcohol is not likely to be so readily got rid of as either substance singly. The question is important from a practical point of view, and I would suggest in all cases of lead poisoning, but more especially in the rarer cases where the higher nerve centres are affected, that a careful inquiry into the patient's habits be made.—*Lancet*, January 26.



ENGLISH MORTALITY STATISTICS.

THE annual report of the Registrar-General for the year 1887 states that the deaths registered in 1887 numbered 530,758, and were in the proportion of 18·8 to 1,000 persons living. This is the lowest death-rate as yet recorded, the next lowest having been 18·9 in 1881. In each of the seven years of the current decennium the death-rate has been under 20·0, whereas in no previous year had it ever fallen so low. In the seven years the average has been only 19·2, having in the next preceding decennium, 1871-80, been 21·4.

The proportion of deaths of infants in the first year of life to registered births, or the infantile mortality, was 145 to 1,000. This was lower than the proportion in the immediately preceding year, when the figure was 149, but somewhat above the average for the ten preceding years 1877-1886, which was only 142.

Dietetic Diseases.—The deaths ascribed to these diseases were 1,765 in number, and in the proportion of 63 to a million living. This rate was precisely the same as the average rate in 1871-80, but slightly above the rates of the three immediately preceding years, 1884-86. The great bulk of the deaths in this group are due to intemperance; and there is no sign in the mortality figures of any decline in the prevalence of this vice. The mortality from it in 1887 was 51 per million living, a slightly higher rate than in any previous year in the table. But there is so much chance of deaths from intemperance being disguised under the name of the local disease to which it gave rise, that much reliance cannot be placed on the recorded rates. So far, however, as they can be trusted, they show a tendency to progressive increase.

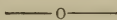
Alcoholism.—The mortality from

this disease is, as might be expected, far higher among men than among women, the registered annual deaths averaging 54 for the former and only 18 for the latter per standard million. The disease shows itself at a terribly early age, there having been even one or two deaths ascribed to it among lads and girls who had not reached the age of fifteen. After this the rate begins to increase, reaching its maximum for both sexes in the 45-55 years' period, after which it gradually declines. The number of male deaths in 1887 from chronic alcoholism was 631, and from delirium tremens 283; the female deaths from chronic alcoholism being 471, and from delirium tremens, 57.

Gout.—Occasionally, though very rarely, a death is ascribed to gout at a very early age, sometimes even in childhood. Of the 12,253 deaths from this disease in 1848-80, 11 were of young persons who had not reached their twenty-first year, while in 20 other cases the deceased was over twenty but under twenty-five years of age. But it is not till after this age that the rate per million reaches a whole figure, after which the mortality

mounts rapidly with each successive age-period. Throughout the male rate is far higher than the female rate, and this is true even in the earlier age-periods, when the usually accepted cause of the higher male mortality, namely, the greater consumption of alcoholic drinks, can scarcely be invoked as an explanation. For of the 11 deaths already mentioned as having occurred before the twenty-first year, 10 were of lads, while only 1 was of a girl, and of the 20 that occurred in the next quinquennial period only 4 were of young women while 16 were of young men. This would tend to show that, quite independently of different habits of life, the male sex is more liable to this disease than is the female. Taking all ages together, the annual deaths average 30 for males and only 7 for females per standard million.

Accidents.—Of 11,103 deaths of males, resulting from accidents, 93 are stated to have occurred to persons in a state of intoxication, and 2 to persons suffering from delirium tremens. Of 4,415 female deaths by accidents, 53 are stated to have occurred to persons in a state of intoxication.



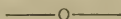
THE IRRESPONSIBILITY OF INEBRIATES.

At an inquest held at Cardiff in regard to the death of a chemist some shocking disclosures were made, which forcibly point to the urgent need which exists for further legislation in the Habitual Drunkards Act. The man was a confirmed drunkard, and one morning he rose at four o'clock and walked naked into the kitchen, where his wife and servant were sitting at breakfast. Neither of the latter had been in bed for nearly a fortnight, owing to the constant watching which the man required. He seized a bottle of whisky, and drank half a pint at a draught, falling dead in a chair a moment after. His medical adviser stated that the deceased had frequently drunk methylated spirits, and

it was known that during one drinking fit he had consumed a large quantity of spirits of wine. The coroner suggested that such cases of dipsomania should be brought under the notice of the authorities, and that those subject to the disease should be properly looked after. With this opinion we are entirely in accord. A confirmed dipsomaniac is as often as not a source of danger to others, as well as to himself. The thin partition which divides the lunatic whose custody is provided for by the law, from the dangerous dipsomaniac who is permitted to go free, is, it must be admitted, founded merely upon a basis of sentiment. A dipsomaniac cannot be held to be responsible for his actions—morally

speaking. But the burden of his care and control is laid by the State upon his friends, and the latter, having no power to exercise any legal restraint, are compelled to accede to the wishes, and tolerate the effects of the actions, of an individual who is practically insane. The lunacy laws, by amendments and re-enactments, have been ultimately made model statutes as far as the purposes they are required to serve are concerned, and we therefore think that the difficulty of disposing of confirmed drunkards might equally be dealt with, in view of the urgent need which exists for further legislation upon this subject. Certain safeguards should be introduced, and the law should be strengthened to the extent of compulsorily placing dipso-

maniacs under restraint. Under these circumstances it might confidently be expected that crime in many forms which can be directly attributed to the neglected supervision of drunkards would undergo a marked diminution. In the present day the confirmed drunkard is permitted by the State to do as he pleases without restraint, and when in his drunken mania he commits a crime—say a murder—it holds him responsible for the act. Reflective persons, we can imagine, might well be disposed to ask whether this condition of things did not closely resemble the fatuous position of the proverbial individual who closed the stable door after the horse had been stolen.—*Medical Press.*



A VALUABLE MEDICAL EXPERIENCE.

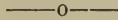
THE *Melbourne Daily Telegraph*, of the 10th December last, contained a sketch of Dr. Singleton, an octogenarian, who was born in Dublin, educated in Glasgow, and in 1851 went to Melbourne, where he has gained a high reputation as a philanthropist. In regard to temperance matters, Dr. Singleton says:—

“Shortly after I came here they made me president of the Total Abstinence Society, and ever since I have been a temperance worker. I have been a teetotaler for sixty-four years. When I was seventeen I was induced to take two glasses of whisky, and they made me so deadly sick that I gave it up, and as a doctor I never ordered alcohol at the rate of a pint a year, or nearly that much. Alcohol in medicinal treatment is altogether unnecessary, as every medical man knows. The evil is that the patients get too fond of it, and often the greatest harm is caused in this way. For over fifty-nine years I have scarcely used it with any patient or for any disease. When a stimulant was thought requisite, I used ether, camphor, carbonate of

ammonia, and I never remember losing a case by this course, but believe it has conduced to the small percentage of deaths that I have met with in cases of erysipelas, rheumatic fever, typhoid and other fevers, and in midwifery practice. In a paper I read at a meeting of the Medical Society of Victoria in 1874, I used these words ‘I have had over 25,000 applications in the last five and a half years for medical aid at the Collingwood Free Medical Dispensary for Sick Poor, and treated all on the non-alcoholic principle, and have had a lower rate of mortality than usual. I refer to the vital statistics as an indirect proof. I have with pain witnessed, like many others of my medical brethren, reformed drunkards go down to ruin and destruction by the incautious prescribing of alcohol by their medical attendant as articles of nutriment, when simple nutritious food would have been far more suitable. I have known young children hurried to the grave by these stimulants, or rather irritant poisons being prescribed; and known many, when dying, so plied with them as strength-sustaining

articles of diet, as to die unconscious, to the grief of their friends. I have known women and men taught to love liquor, and become ruined drunkards, by the drinks they were first led to like from the unscientific recommendation of a medical man, and using this latter as a plea or excuse for continuing them. From what I have heard, vast must be the number of such in this country. Is it then too much to hope for, that with the aid of this society the light of science may soon produce a reaction in this respect; and that medical men, always in the front ranks

for benevolent and philanthropic measures and movements, will come forward now and practically ignore the delusions and theories so long in the ascendant, by using it, if not only as an external agent, at least in harmony with science as a guide? ' Since the Collingwood dispensary was opened 80,000 people have passed through my hands, and I have not ordered drink in a single instance. The result is that the mortality of the whole district is diminished, although the neighbourhood is low and flat."



THE ALCOHOL DEBATE AT THE PATHOLOGICAL SOCIETY.

(From the *Lancet*.)

It was a happy thought to ventilate the question of chronic alcoholism in the cool atmosphere of the Pathological Society. The question in any other society is apt to prove a burning one. But, as Sir James Paget felicitously said, the debate on the results of intemperance had been a most temperate one. For all that, it was a very serious one, and should be diligently studied by every practitioner. It constitutes for the time being the best statement that can be seen of the actual, material, and palpable consequences of using alcohol to excess. For the real value of the discussion was in its contributions to the pathology of alcoholism. One or two speakers dealt with purely statistical statements and arguments. These are not without interest, but they were somewhat out of place in the Pathological Society. It is only fair to remember, too, in reviewing the discussion, that the speakers generally, like Dr. Payne, who opened the debate, had in view the use of alcohol in an excessive quantity, or in its concentrated forms. Dr. George Harley, indeed, said, on the strength of life insurance office statistics, that the habitual use of alcohol in a much smaller amount than was usually

supposed materially shortened life, and that the average life of teetotallers was considerably longer than the average life of the moderate drinker. But he did not enforce this statement with any proofs from his own somewhat special experience. And undoubtedly the majority of the speakers had in their mind, when describing structural and palpable lesions produced by alcohol, the case of those who drink largely. We wish in no degree to lessen the gravity of this discussion, or the warning that it gives to all concerned that alcohol is as veritable a poison, if injudiciously used, as lead or arsenic. Our own constant remarks on this subject for years past, in harmony with that of all the leaders in medicine, have been in favour of extreme moderation in the use of alcohol in diet, and extreme precision and caution in the prescription of it as a remedy. We have denounced all casual drinking of alcohol as fraught with danger to health. We feel, however, that temperance must be observed even in the denunciation of intemperance, and that the medical profession will make its best contribution to the cause of temperance by arguing the question on strictly medical lines. The discussion on which

we comment is, on the whole, an admirable instalment of this contribution. Allowing that the destruction of organs there described was chiefly the result of what we may call coarse intemperance, it still remains a grave warning of the physical havoc in store for those who use alcohol recklessly. As Dr. Sharkey indicated in the debate the power of resistance to alcohol varies greatly in different individuals. One man may be the subject of cirrhosis or alcoholic paralysis at forty from the effects of quantities of alcohol that would permit another man to live unscathed to sixty or eighty. Every practitioner knows men, and even ladies, who indulge in what Dr. Finlay would call "Bacchanalian bouts of drinking," but who contrive to live long without paying the penalty in diseased nerves or liver. The explanation is that they are persons of remarkable constitution, and have tissues with extraordinary powers of resistance. If ordinary people imitate them, and think to do so with impunity, they will undoubtedly find themselves mistaken.

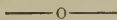
We may indicate the principal points raised in the discussion, but we fear that many of them are yet far from being settled. The definition, however, given to them by this discussion will go some way towards hastening the settlement of them. Dr. Payne, in his able opening and closing of the debate, insisted clearly on stating his belief that the ordinary pathological conception of cirrhosis needs reconsideration. He demurred to regarding it as a mere inflammation of the interstitial stroma of the liver set up by alcohol introduced through the portal vein, and introducing great quantities of new fibrous tissue, which by pressure destroys the hepatic cells. He insisted that the destruction of cells and hyperplastic inflammation of connective tissue take place concurrently, and in this view was supported by Dr. Lionel Beale, who held that the essence of cirrhosis was atrophy of cells, and not inflammation of connective tissue. Dr. Dickinson stoutly maintained that the overgrowth of fibrous tissue is the essence of cirrhosis; and

Dr. Sharkey showed specimens of apparently healthy liver cells side by side with masses of newly formed connective tissue even in advanced cases of cirrhosis. We must leave this debatable question in pathology with an inclination to the ordinary view, at the same time fully recognising the force of Dr. Payne's objections. We are especially interested incidentally in his suggestion that the liver cells seen in such connection with newly formed fibrous tissue may be newly formed cells, and in his hopeful view of the formation of new cells and new bile ducts; in other words, in a restoration of tissue in a diseased liver, supported, as he says, by clinical experience of cases of recovery from grave degrees of hepatic disease.

Not the least interesting part of the debate was that having reference to alcoholic paralysis and other forms of nervous disease produced by alcohol. We will not dwell on the special pathology of alcoholic neuritis, or on the order of changes in the nerves. What is eminently worthy of the attention of practitioners in this connection is the frequency of tubercular disease in cases of alcoholic paralysis. In fact, the association of chronic alcoholism in all forms and tuberculosis was brought out by almost every speaker, including Dr. Payne, who said truly that the inaccurate impression that habits of alcoholic excess were in any way antagonistic to tubercular disease must be regarded as swept away. Dr. Dickinson's investigations into the comparatively much greater frequency of tuberculosis in publicans and others whose occupation or habits expose them to the evil of chronic alcoholism were the first to open the eyes of the profession to the fallacy that alcohol antagonises tubercle. Many eminent medical men have felt with Dr. Dickinson that, as alcohol does so much harm, it surely must do some good. But, so far, the good that it does or the evil that it prevents has not been made very manifest. They need more definition. Dr. Izambard Owen says the statistics of the Collective Investigation Committee showed that the consumption

of alcoholic liquors appeared to check malignant disease. This statement should now be tested very rigidly. Malignant disease is said to be on the increase. We have seen the demolition of the belief that alcohol is a preventive of tubercle; it would be some

set-off against the mischief it works if it could be shown seriously to antagonise cancer. We suspend our judgment, and meantime have to thank the Pathological Society for a valuable contribution to the pathology of alcoholism.



THE *LANCET* ON ALCOHOL.

OUR medical contemporary is anxious that the public should be correctly informed on the subject of the place and power of alcohol, and therefore it has recently devoted a leader to this vexed question. According to this organ of the medical profession, Dr. Owen's figures have been a "severe blow to the teetotal party." In what way, pray? "Scientific workers," says the *Lancet*, "must above all things avoid both the spirit and tactics of fanaticism;" by all means, say we, and therefore they should not begin by talking nonsense. How can figures that really point to no conclusion at all be a severe blow to any party? Dr. Owen himself warned the public against drawing any conclusions from his statistics, and the more we study them the more we shall be convinced of the wisdom of his words. Even the *Lancet* itself had to enter the lists and caution men against being misled by these reports of the collective investigation committee: statistics that seemed to prove that actual intemperance was more healthy than abstinence, may well be regarded as of no value. Hence, it is the "spirit of fanaticism" to suppose that such results can be a severe blow to any body of intelligent men. As to whether alcohol be a stimulant or a narcotic, this question may be of no importance to the *Lancet*, but it is, we submit, of great moment to scientific thinkers and workers. Surely we should try to find out the precise mode of action of a powerful agent like alcohol! And if it stimulates the action of the heart by first narcotising some other portions of

the human frame, it is interesting to know this. It is therefore no mere "useless bit of logomachy," but a bit of scientific inquiry.

What then, according to this scientific (?) writer, do we know about alcohol? First, that in some form it is the daily diet of the vast majority of the most vigorous, progressive, and enlightened races of mankind, and secondly, that "beyond doubt, it is a fertile source of disease."

Grant, if you will, that to-day the vast majority of the strongest people use alcohol, what does this prove? Are they "progressive, vigorous, and enlightened," because they use alcohol? Is it not a fact that the more men really learn about the properties and effects of alcohol, the less they take, that is, if they act upon their knowledge? The *Lancet* refers to Sir W. Roberts, as if the opinions and guesses of this scientific worker were themselves science; but Sir William has really given us no light, and men who have studied the subject quite as deeply as he has give a very different testimony; nay more, Sir William's facts and his opinions do not point in the same direction. Unless it can be proved that men are wise, intelligent, and energetic because they use alcohol, the argument is useless. Very likely the majority of the most energetic portions of the community, or of the race, do many things they ought not to do, use expletives, for example; but this does not prove their wisdom. We do find on the part of all the more intelligent men in Europe who have really studied

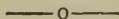
his alcohol question, a tendency to abstinence; and this tendency, among wise men at least, seems to be in proportion to the extent and accuracy of the knowledge possessed. We deny that only an "insignificant minority" of those who "do the best work of the day in all departments of human activity become total abstainers." As a matter of fact, there is a daily increasing number of the best workers joining our ranks. Take the clergy of all denominations, the men who are brought into closest contact with the evils of drinking, and who have been compelled by the exigencies of their work to consider this subject carefully; a very large number of the best men in all the Churches are now abstainers. In the medical profession, too, there is a growing feeling in favour of abstinence, especially among the younger men; and many of those who do drink a little frankly confess that they do so for social rather than for dietetic reasons. As to "not a few" trying abstinence and "deliberately returning to the prudent use of alcohol," we have grave doubts about this. Many return to their wine, it is true, but very few, so far as our knowledge goes, do so because they are trying to "make the most of their powers." Many do not give abstinence a fair and honest trial, and of those who do, very few return to the old and more dangerous mode of life.

The *Lancet* attempts to throw discredit on the statistics of insurance societies regarding the health of teetotalers. "The returns, if very decisive, would possess great value!" Would, indeed! They are very decisive, and they do possess great value. They clearly demonstrate, and this is confirmed by many other facts regarding the effects of alcohol on the human frame, that the life of abstainers is better by nearly one-third than the life of drinkers. What is the use of saying that a man may become an abstainer "for some definite reason," and that this "reason may affect his prospect of longevity?" that he may renounce alcohol, either because, being highly nervous, he

finds "stimulants injurious," or being "robust," he feels no "craving" for alcohol? There is not much science in views like these. Science tells us what is certainly known, not what some distinguished men think, or what may be. All sorts and conditions of men take alcohol—the feeble, the excitable, the dull, and the vigorous; in like manner, all kinds of people abstain, and all alike—certainly this is their testimony—find abstinence good for their health. The nervous man becomes less excitable when he abstains, and the vigorous man finds his strength both increased and conserved. It is all very well to say that the non-abstaining section in insurance societies includes men who shorten their lives by intemperance! True, but not to the point, for the abstinence section will also include men who have been drinkers, and who have probably taken a good deal of drink. Medical men find in temperance benefit clubs, for example, that they have to deal with abstainers who have entered these clubs as converts from the ranks of the tipplers; and, according to their testimony, such men are often poor samples of the blessings of abstinence. If then we make allowance on the one side, let us remember to make it on the other; this is the only way to reach anything like an accurate estimate of the worth of insurance statistics. But the *Lancet* has to bear its testimony, in this effort to damage temperance statistics, to the dangers of moderate drinking. Lives that are insured are supposed in all cases to be picked lives, and yet on the drinking side the dangers are so great, and the number who become actually intemperate so considerable, that the average is reduced. And this is the practical conclusion of the whole matter. It is always difficult to drink anything but "carelessly," and therefore, all subtleties apart, abstinence is the safe path for all. We have the best of all proofs that abstinence is good for man, and for the whole of man—body, soul, and spirit—therefore we reject the fancies of medical writers, and accept as our guide the sober testimony of science,

and of experience. Those who wish to have sound minds in sound bodies will do well to avoid alcoholic liquors of every kind. Wine is a mocker,

says the Holy Book, and whosoever is deceived thereby is not wise!—*Irish Temperance League Journal*, edited by Dr. McMurtry.



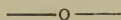
IN WHAT SENSE IS ALCOHOL A POISON ?

THIS question is discussed in a recent number of the *British Medical Journal*, by J. F. Payne, M.D., Vice-president of the Pathological Society of London, and one of the physicians to St. Thomas's Hospital. And he answers it by saying that "Alcohol acts (1) as a functional poison, (2) as a tissue poison or destructive, and (3) as a checker of oxidation." "But, he adds, "it may be worth while to say that I do not use the term 'poison' as a term of unqualified condemnation. It only means something capable of producing injury, not necessarily doing so. All metallic salts, nearly all drugs, and many substances used as food, are in this sense poisons, but we do not on that account deny their usefulness when properly employed. It would be as absurd to condemn alcohol as to condemn common table salt because a large dose of either of them may be fatal." That is to say, alcohol is a poison only in the sense in which articles of food and almost everything under the sun are; that it is no more a poison than milk is, for example, because milk and it are alike in being "capable of producing injury"! Whatever is capable of injuring the tissues or functions of the body is a poison! So teaches Dr. Payne. But it is only fair to state that he says "these views are put forward with the object of inviting criticism and correction. It is very probable that they may be one-sided or faulty." Very probable, indeed, as we shall try to show. We admit the difficulty of framing a definition of the term "poison" to which exception may not be taken. But we have no hesitation in pronouncing that given by Dr. Payne altogether unscientific. It would include the most diverse

and heterogeneous things, and many which even non-medical persons would rightly refuse to place in that category. What substance can be named, "from a needle to an anchor," as the saying is, that is not, if the required circumstances be present, "capable of injuring the body either by causing damage to the tissues, or by producing functional disturbance?" The definition is too wide and extensible to be of any value. It wants the clear-cut limitations which a true definition ought to possess. Dr. Payne's would require us to look upon a railway train, boiling water, a fish-bone, a rifle bullet, a red-hot poker, as poisons, for these are certainly "capable" of injuring tissue and disturbing function. The fault of his definition is that it has reference not to essence but to accidents; not to the nature of the thing, but to external and ever-varying circumstances, so that, according to it, a substance might be a poison to-day and a harmless or wholesome thing to-morrow. There is no science in such laxity of thought and language as this. A better, although we do not say an absolutely perfect, definition of "poison" would be—a substance which, in its natural state, and in any quantity, if introduced into the blood, has an action antagonistic to healthy structure and healthy function; a substance which, so far as it acts at all in the blood, acts injuriously; which does not build up and promote the normal material and work of the body, but tends to destroy and pervert these. This definition, we know, would exclude some things commonly called irritant poisons, which may injure without or before getting into the blood at all, that is to say, on any part

of the digestive tract, from the mouth downwards; but as this is, anatomically speaking, really outside the body, these irritant substances are no more entitled to be called poisons, in the true sense, than a blister, a caustic, a corrosive, frost, or fire, or things which irritate the outside of the body in the popular sense, that is, the skin. The true poison acts in and from the blood, and by its very nature acts injuriously. Just as the terms acid, alkali, antidote, germicide, caustic, savage animal, connote not *capability* of certain actions under certain circumstances, but *natural tendency* to certain action under all circumstances, so does the term "poison." It has nothing to do with degree, dose, or capability under certain conditions, but implies an inherent nature, tendency, or mode of action incompatible with the integrity of the tissues and the normal performance of their functions. Now this definition shows that common table salt, and the foods Dr. Payne

alludes to, cannot in any true sense be called poisons, or be condemned as reasonably as we condemn alcohol, namely, because in a large dose they might, like it, prove fatal. We do not condemn alcohol because a large dose may prove fatal, but because any dose of it is injurious. We cannot say this of common salt or ordinary foods, and hence, whatever harm these may do by being given in an improper quantity, form, or state, under unsuitable circumstances, there is no analogy between them and alcohol, whose very nature it is to injure, irrespective of circumstances. Moreover, if Dr. Payne wishes his teaching about alcohol to be of any practical use in daily life, he ought to tell us under what circumstances that fluid is a poison to the tissues and functions and a checker of oxidation, and under what other circumstances it is "incapable" of acting thus and is safe, wholesome, and useful as a human drink.—L. M. —*Irish Temperance League Journal*.



CHRONIC ALCOHOLISM IN CASES OF RENAL DISEASE.

Notes by SIR HUGH BEEVOR, *late Medical Registrar to King's College Hospital*

In the Collective Investigation Committee's report on chronic alcoholism, and in the recent discussion on the pathology of chronic alcoholism, the concensus of evidence and opinion on the connection between alcohol poisoning and Bright's disease is that it is not frequent. Dr. Hadden and Dr. Pitt, speaking of a large number of cases of cirrhosis of the liver, found marked interstitial changes in the kidney only in one-sixth and one-fourth of the cases; showing, as Dr. Dickinson remarked, that the two organs seldom become fibrotic together. While Dr. George Harley pointed to the statistics of the Registrar-General, in which liver diseases are nearly four times and renal diseases more than twice as frequent in the brewer and publican class, Dr. Dickinson brought forward statistics of the drink class,

and found cirrhosis of the liver nearly three times as frequent, but renal disease not more frequent in this class than in the same number of persons of all other classes. Wishing to see what evidence the clinical case-books would afford, I have inspected the reports on the last 100 cases of the various forms of Bright's disease, admitted under Dr. George Johnson. Fifty of these cases were males over twenty-five years of age, and in twenty-five of these fifty, the notes gave information that brings them under the classes of free drinkers and the decidedly intemperate—50 per cent., that is, 20 per cent. more than the habit of the general aggregate, according to the figures of the Collective Investigation Committee's report. In twenty-three women of the same age-period nine were noted as intem-

perate; here the notes of a hospital patient are more likely to be occasionally without information on the subject, even after inquiry. In one-fourth of the cases no information appeared in the case-book. Though a hospital is often a refuge for the improvident

patient, it is also a refuge for simple chronic impecuniosity, so I think these scanty figures favour a considerable influence of alcoholism over nephritis. Gout is hardly ever named in the notes on these hospital cases.—*British Medical Journal*, February 2.



SOCIETY FOR THE STUDY OF INEBRIETY.

A QUARTERLY general meeting of this Society was held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Tuesday, 1st January, when a paper by Dr. James Stewart, Dunmurry, Sneyd Park, Clifton, Bristol, was read, on "Inebriety among the Higher and Educated Classes," which is given in full elsewhere.

Dr. NORMAN KERR, president, was in the chair, and referred to the great loss sustained by the Society in the deaths of two well-known members. Lord Mount Temple had been from the first an active associate. He had, though taking a deep interest in moral and religious agencies for the reformation of the drunkard, especially in abstinence effort, thoroughly recognised the diseased condition of the inebriate, and the need for appropriate treatment. Mr. John Medley was another original associate, who had been suddenly cut off in the prime of life, who had a clear view of the physically abnormal constitution of the inheritors of the narcotic diathesis, and of many intemperate individuals who owed their excess to dominating impulses or craves originating in some departure from sound health.

After Dr. Stewart's paper had been read, the Chairman regretted to have to state that in some establishments the absolute cutting off of all alcoholic beverages was not followed, but a pint of beer or other alcoholic allowance was given with each meal. Then, again, some of their moral and religious friends held the opinion that inebriety was not a disease, but a vice. Another topic in Dr. Stewart's able

and suggestive paper was the necessity for, and the safety of, the immediate discontinuance of all alcoholic inebriants.

Mr. CARSTEN HOLTHOUSE thought inebriety was both a bad habit and a disease. The line between the two was very difficult to be drawn. Habits became moral diseases without becoming physical diseases.

Mr. JOHN TAYLOR spoke of the difficulty of drawing the distinction between a bad habit and a disease, but could explain many cases of drunkenness only on the disease theory.

Mr. J. H. RAPER believed that physical disease was the only explanation of the conduct of men who now suffered from inebriety; yet there were some who believed it was a vice, and that only by holding that view they felt they could influence those inebriates under their care. Those institutions where beer was given at each meal could not possibly do the work they professed.

Canon BARKER was of opinion that there was a degree of disease leading to inebriety in all persons, and doctors could do more than all others beside in stopping intemperance.

Dr. STEWART briefly replied. His reply to Dr. Holthouse was this—every drunkard is not an inebriate, any more than every disease of the brain is insanity. Inebriety was the condition of the body which resulted from the continuous taking of alcohol sufficient to produce the physical deterioration of the brain tissue.

The PRESIDENT briefly summed up the discussion, and the proceedings were brought to a close.

INEBRIATE CRIMINAL RESPONSIBILITY.

A LECTURE ON "Inebriate Criminal Responsibility," was delivered to the Society for the Study of Inebriety, in the rooms of the Medical Society of London on Tuesday, 12th March, by the President, Dr. Norman Kerr. The lecturer began by saying that this subject had assumed considerably enhanced importance since he had treated of it fully a year ago in the course of lectures delivered by him there, which had been published in the form of his work on "Inebriety, its etiology, pathology, treatment, and jurisprudence." His invitation to Mr. Clarke Bell, president of the Medico-Legal Society of New York, to read a paper in England in these rooms had resulted in several special meetings in New York, and the publication of the paper and discussion thereon in the shape of a volume of 200 pages. The criminal procedure in cases complicated with inebriety in different countries was described. In Germany, Italy, and Switzerland there was a difference in the penalties inflicted by the law for crimes committed in a state of culpable, as distinguished from inculpable, intoxication. In England, America, and France, no such distinction was legally recognised. Yet by common practice, in the United States, a habitual was usually considered a diseased drunkard, and in capital offences the death punishment was usually avoided by the adoption of a verdict of "murder of the second degree." In England in the time of Edward VI., Plowden laid down that drunkenness was no excuse, as did Mansfield in 1767. Coke went further and declared that drunkenness aggravated the offence. Since those days similar contradictory verdicts had been pronounced in accordance generally with the varying judicial charges.

This penal procedure had been founded on our former ignorance of any pathological condition or brain injury ever underlying or preceding intoxication. But the comparatively recent revelation of medical scientific research that there is often a diseased state of the brain in individuals guilty of either a sudden and unexpected

outrage of the laws of decency or morality (or of a continuance of such outrages) while affected by alcohol or some other anæsthetic intoxicant, has not been without influence on the administrators of justice. Dr. Kerr described various abnormal appearances after death in the brain of inebriates, appearances similar to those observed in insane cases, and indicative of brain degeneration and disturbance during life.

In one case two men were going home drunk. One as a joke tried to rob the other; the latter, believing that the attack was malicious, killed his drunken companion. The judge ruled that there was no criminal responsibility, as the accused had acted under the impression that his life was in danger. This ruling would cover many crimes committed during an attack of delirium tremens, as most of the injuries inflicted by such a deliriate were inflicted because he was under the false belief that some one was trying either to attack his life or liberty; or at times were unintentionally the result of a frantic effort at escape. Dr. Norman Kerr described a very narrow escape he himself had at sea from strangulation by a man suffering from delirium tremens.

There had been a number of acquittals in charges of murder during an attack of delirium tremens. In one case a husband was acquitted of murdering his wife because he fancied that she was in league with men concealed in the walls. Another acquittal was on a charge of feloniously wounding two persons on the delusion that the prisoner's house was being broken into. Though this plea had not always prevailed, there was a growing disposition in both judge and jury to accept a delusion of delirium tremens as a valid ground of irresponsibility. A general ruling to this effect would of itself be a great improvement in our criminal jurisprudence.

If Sir Fitz James Stephen's dictum were accepted that there should be no responsibility when the absence of the power of control was not from default of the accused, this could be

strongly urged on behalf of many inebriate criminals. Not a few were born with a predisposition to intoxication; others with so delicate a susceptibility to narcotics that if they drank at all they could not avoid drinking to excess; others, again, with a defective resisting power. Such should not be judged by the same standard as those who were born with thoroughly healthy and sound body, brain, judgment, and will.

Sometimes drunkenness was but a symptom of insanity—crime perpetrated under such conditions could not be fairly deemed culpable. Sometimes the brain became permanently diseased through drinking, when all admitted that the accused was insane. There could be no difference of opinion as to irresponsibility here either. But there were other cases in which crime was committed, while the doer was for the time being quite out of his mind, though this insane state soon passed off. Why should the temporarily insane from alcohol or opium be held accountable when he would not be so treated if temporarily insane from any non-narcotic cause?

Mania-a-potu was such a form of very short-lived madness, yet while the attack lasted the person was altogether beyond his own control.

Some drinkers "knew when to stop," and could limit their potations. Other drinkers had, practically, no such brake-power; many of them being unable to resist the periodic drink impulse and crave unless forcibly restrained till the inebriate paroxysm spent its strength. After each paroxysm the subject of this form of narcomania was safe and responsible for a time. Inebriate or narcomaniac trance was a state of unconsciousness of intention or design, during which the individual

affected had no knowledge or remembrance of his acts. This ought to involve no more responsibility than did somnambulism, of which it was practically a form. He was glad to be able to refer to two recent deliverances from the bench of the highest import in the relation of physiology and pathology to criminal law. Chief Justice Palles had ruled (*Reg. v. Mary R.*) that if a person from any physical cause, such as long watching, loss of sleep, or depravation of blood, was reduced to such a condition that a smaller quantity of alcohol would make him drunk than would do so in health, then neither law nor common sense could hold him responsible for his acts, inasmuch as this was not voluntary but produced by disease. The other deliverance was by Baron Pollock (*Reg. v. Mountain, Leeds Assizes, 1888*) and recognised the influence of heredity. The prisoner was acquitted. He had killed his mother with prolonged violence, and there was evidence of delusions, of acute alcoholic disease, and of insane heredity. The learned judge ruled that if the insane predisposition was the main factor, though the drinking of a small amount of alcohol was a contributory cause, the plea of irresponsibility was good.

In the interests of justice, in many criminal cases complicated with inebriety there ought to be an investigation into the health history, and especially the heredity, of the accused. Otherwise great injustice would often be done to the panel at the bar, while the dignity and influence of the law would be seriously impaired. The lecturer concluded by proposing a mixed commission of medical and legal experts to conduct an investigation into the whole subject of inebriety and criminal responsibility.

INTEMPERANCE, PHTHISIS, AND CIRRHOSIS.

THE recent discussion at the Pathological Society has turned the attention of the profession to the direct and indirect results of alcoholism. An interesting paper by Dr. Alison on the precise etiology of cirrhosis of the liver and pulmonary phthisis amongst

intemperate subjects appeared in the December number of the *Archives Générales de Médecine*. Dr. Alison, after many years of research amidst a rural and a town population, has found that pulmonary tuberculosis is frequent amongst intemperate men of

active habits living by hard toil in the country. On the other hand, he discovered that such men rarely suffer from cirrhosis. In a very scantily-populated district he found that 18 out of 58 consumptives were known to be habitual drunkards, and on analysis of each case of the local prevalence of phthisis, he concluded that the relation must have been other than accidental. The drunken peasant is constantly exposed to conditions which favour the production of phthisis. He slouches out of a hot tap-room into the keen country air, and soon perspires through the violent exercise involved in his labour. The elimination of the alcohol partly takes place through the lungs, and the bronchial tubes become irritated; hence, the bacilli of tuberculosis find a favourable cultivating medium in his respiratory tract. The drunkard's nutrition is likewise impaired, so that he is liable to chills even when sober. Dr. Alison found very distinct evidence that intemperate countrymen are particularly

liable to contract phthisis when living amongst phthisical subjects. This was often the case in peasants of the habits and age which are so often associated with cirrhosis. At the same time, Dr. Alison had occasion to detect the greater frequency of cirrhosis amongst workmen at the establishment of Baccarat employed in trades which demanded sedentary indoor labour, and amongst innkeepers and other countrymen addicted to indoor habits. Dr. Alison gives clinical histories of the cases of phthisis and cirrhosis in intemperate subjects under his observation from 1871 to 1885. The phthisical rustic patients were from twenty-five to sixty-two years of age; the cirrhotic townfolk or sedentary rustics ranged from forty-nine to sixty-three; this category included a parish priest, the eldest on the list, who appears to have taken to dram-drinking to assuage grief, and one woman, aged fifty-four, who seldom went out of doors.—*British Medical Journal*.

ABSTINENCE AND RESERVE FORCE.

—When the life of Mr. George Atkin, the young man who was shot by a burglar at Muswell Hill, appeared to be in imminent jeopardy, the hopes of his physician, Sir William McCormack, were greatly strengthened by the circumstance that the patient had not only a splendid constitution, developed by physical exercise, but had for years been a total abstainer and non-smoker; and it is gratifying to know that his hopes of recovery have been fully realised. If Mr. Atkin had indulged in the enervating habits which are unfortunately too common amongst the young men of the present day, he would in all probability have speedily succumbed to the terrible injuries inflicted by the inhuman burglar who attempted, by repeated shots from a revolver, to put an end to his valuable life.

THE BRITISH MEDICAL ASSOCIATION'S INQUIRY INTO INTEMPERANCE.

—The much-controverted and greatly misunderstood report of the Collective Investigation Committee of the British

Medical Association upon the subject of Intemperance, was referred to at the Pathological Society on the 15th December, by Dr. Isambard Owen, convener of the committee, who is reported to have said:—"An idea has got abroad that the committee stated that total abstinence was a very bad thing, and that total abstainers had an earlier relative mortality than drunkards. This Dr. Owen, on behalf of the committee, emphatically denied, and said that the committee had intentionally not announced any definite conclusions. He then recounted the data from which the committee drew their results, these being that the temperate had an average of sixty-two years of life, the intemperate of fifty-two years; total abstainers showed an average of only fifty-one years, but this was clearly shown to be due to the fact that a great preponderance of total abstainers were young people; and the total abstainers above forty showed at least four years expectation of life longer than the habitually intemperate."

British Medical Temperance Association.

—o—
President.

DR. B. W. RICHARDSON, F.R.S.

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NOTICE.—Members who have not paid their subscriptions for 1888-9, would greatly oblige by forwarding them to the Honorary Secretary.

Enfield, March, 1889.

J. J. RIDGE, M.D., *Hon. Sec.*

THE PRESIDENT'S CONVERSAZIONE.

THE popular President of the Association (Dr. B. W. Richardson, F.R.S.), entertained the Associates (medical students) at a conversazione on Saturday evening, March 16, at his residence in Manchester Square, which was crowded with medical guests, most of whom were accompanied by ladies. The company, numbering over 150 ladies and gentlemen, included Dr. Ridge, Dr. Kerr, Dr. Morton, Dr. Brodie, Dr. Lindsay Johnson, Dr. Green (Salisbury), and Canon Barker. The programme comprised a choice selection of music, in which Mrs. Richardson, Miss Richardson, Miss Hunting, Mr. Hirwen Jones, and Mr. Aubrey Richardson took a prominent part: and much interest was excited by Mr. W. T. Glover's demonstrations of the capabilities of the graphophone, as well as by a varied exhibition of rare books, drawings, plates, cameos, and apparatus. A short address to medical students, on "The Phonograph in Medicine" was given by Dr. Richardson. There was an abundant supply of temperance refreshments, and the arrangements, as a whole, were warmly appreciated by the numerous visitors.

THE
MEDICAL TEMPERANCE JOURNAL,
July, 1889.

Original Contributions.

IS TOTAL ABSTINENCE A CAUSE OF PREMATURE
DEATH?

By J. J. RIDGE, M.D., B.S., B.A., B.Sc. (Lond.), *Physician to the
London Temperance Hospital, Hon. Sec. British Medical
Temperance Association.*

IN 1882 there was celebrated the jubilee of the modern Temperance reformation in England. Fifty-seven years ago, when Joseph Livesey and his six companions signed the pledge of total abstinence, it was commonly believed that they were doing a very rash act, and that it was likely to result in weakness, disease, and premature death. In many cases men and women nobly accepted the risk, "counting not their lives dear unto themselves" if they might stem the torrent of intemperance.

But though the popular opinion was that beer was absolutely necessary to life and health, it must be remembered that many voices had been raised from time to time, long before that period, by members of the medical profession, in favour of total abstinence. And in 1839 the first of those three important medical declarations was issued, in which the leading doctors of the day declared that the ancient opinion that some kind of alcoholic drink was beneficial to health, and even necessary to labourers, was "altogether erroneous." It was stated that man does not require them, and is not benefited by their habitual use, nor able to do more work in consequence, but rather less: that small

quantities do no good, and larger ones more or less obvious harm, without any exception.

This plain and uncompromising declaration was extremely encouraging to those who had begun to practise total abstinence with certain misgivings, but it cannot be said to have at once silenced the warnings of the advocates of alcohol. Many a tee-totaler has been watched, as Paul was at a certain island called Melita when he had been bitten by the serpent, being expected to drop down dead suddenly. The patience and faith which anxious friends have displayed is marvellous; for even after twenty or thirty years of total abstinence a sudden or serious illness has immediately been regarded as due to the lack of alcohol, and as a proof of the danger of abstinence. In other cases continued immunity from disease or death has been attributed to some special strength of constitution.

At the same time it must be allowed that the accumulating experience of the vitality and health of abstainers has silenced the prophets of evil to a considerable extent. It may now be regarded as proved to demonstration that, other things being the same, total abstainers live longer and have less illness than ordinary moderate drinkers, and the presumption is very strong that the use of alcohol in any quantity, however small, tends to produce disease rather than health, to shorten rather than prolong it.

The figures of such offices as the United Kingdom Temperance and General Provident Institution, showing that the actual deaths of abstainers are but 75 per cent. of the number calculated to occur according to the experience of insured lives, are convincing to every person willing to be convinced, that alcohol conduces to disease and premature death. If there were any experience on the other side it would have been brought forward long ago. It may seem cruel to grudge the brewers and drinkers the satisfaction they have been deriving from the figures published by the Collective Investigation Committee of the British Medical Association on the influence of Alcohol on the mortality. But the figures published, at first sight much against total abstinence, must be subjected to strict examination, and must not be accepted, contradicting, as they do, the figures of the insurance offices, unless they can pass unscathed through the same rigid scrutiny.

The facts and figures in question are these:—A certain number of medical men furnished the Committee with the ages at death of all the males over 25 years of age who had died during the previous three years, classifying them according to their habits as regards alcohol as far as they could be ascertained. The results obtained were that the average age at death

Of 122 total abstainers	was 51 years 80 days.
Of 1,529 habitually temperate	„ 62 „ 50 „
Of 977 careless drinkers	„ 59 „ 246 „
Of 547 free drinkers	„ 57 „ 216 „
Of 603 habitually intemperate	„ 52 „ 14 „

Omitting the first line for a moment (1) it is perfectly clear from these figures that the more alcohol men drink the worse it is for them, and that the less they take the better.

(2) The habitually temperate class includes all who take alcohol even very seldom and in the smallest quantity. It will not be denied that there are a good many of these. But it cannot be seriously urged that their length of life would be anything very dissimilar from that of total abstainers. And yet if total abstinence is always and actually so prejudicial to life, it is impossible to understand how the average length of life of this class, as a whole, including so many "all but" teetotalers, could be so high as it is.

(3) I would again refer, just for a moment in passing, to the alarming fact that about fifteen per cent. of these adult males were habitual drunkards, and another fifteen per cent. more or less distinctly intemperate: no less than *thirty per cent.* of a sample of the adult males of this country in the latter years of their lives. One may say that, according to these tables, *one-third of Englishmen die drunkards.*

But in reference to the total abstainers the fact must strike the most prejudiced observer that the number of deaths recorded, only 122 out of a total of 4,234, is absurdly small, only 2.8 per cent. It will not be contended, I think, that there are only 28 teetotalers in every 1,000 adult males. There is no exact record by which the actual proportion can be ascertained; but from my knowledge of the isolated suburban district of Enfield, in which I have resided more than sixteen years, and am Medical Officer of Health, I can express my conviction that there are at least ten per cent. of total abstainers among the males over 25 years of age; this is the lowest possible estimate. I should not be surprised if a census were to show it to be considerably higher. But if 10 per cent. of the population only furnish 2.8 per cent. of the deaths, it is clear that this minority has no reason to regret its distinguishing habit of total abstinence, and these figures so far confirm the experience of every other society or collection of men which has furnished statistics on this subject.

I have no new explanation to give of the cause of the apparent early death of the 122 total abstainers. They certainly died young because they had not had time to grow older. But, as I and others have already pointed out, the total abstinence move-

ment is itself young, the great majority of abstainers are under forty years of age, and have only been abstainers perhaps ten, twenty, or thirty years of that period. Hence the deaths in their ranks must include more young and middle-aged than old people, and the smallness of the number indicates far more strongly the healthfulness of the practice than any inevitably lower average age does the contrary.

There can be no doubt that the only way to arrive at any satisfactory answer to the question whether total abstinence is prejudicial to health and shortens life is to compare together a number of persons of the same age. When all ages are lumped together it may be alleged that there might be a different experience among the young and the old. We are fortunately able to present a table in which this comparison can be made at different ages. In 1881 the London Grand Division of the Sons of Temperance published an actuarial valuation of their experience during the preceding five years, made by W. L. Gomme, Esq., of the firm of Gomme & Hatton. In his report he compares the amount of sickness of the members of the Sons of Temperance with that of the Manchester Unity of Oddfellows (town and country separately), and of the Foresters, classifying them according to age. The following is the table thus obtained:—

AMOUNT OF SICKNESS PER ANNUM FOR EACH MEMBER AT RISK.

Ages.	Sons of Temperance. 1875-80.	Oddfellows, M.U. Rural Towns and City Districts. 1866-70.	Oddfellows, M.U. Rural Districts. 1866-70.	Foresters. 1871-75.
	Weeks.	Weeks.	Weeks.	Weeks.
18—20	·41	·66	·63	·91
21—25	·54	·76	·77	·81
26—30	·52	·82	·84	·87
31—35	·66	·97	·97	1·01
36—40	1·06	1·08	1·06	1·18
41—45	·82	1·32	1·32	1·44
46—50	1·02	1·75	1·83	1·77
51—55	·97	2·35	2·45	2·48
56—60	·75	3·30	3·23	3·39
61—65	·73	5·13	4·68	5·12
66—70	<i>nil</i>	8·06	6·90	8·68
	7·48	26·20	24·68	27·66

Putting this experience in another way, he compared the percentage of members sick during five years in each group of ages:—

PERCENTAGE OF MEMBERS' RISK.		
Ages.	Sons of Temperance. 1875-80.	Foresters. 1871-75.
18—20	13	27
21—25	13	22
26—30	13	21
31—35	13	21
36—40	16	22
41—45	13	23
46—50	12	25
51—55	13	27
56—60	13	30
61—65	13	35
66—70	<i>nil</i>	45
	132	298

This table shows conclusively that at every age the use of alcoholic beverages increases the number of cases of sickness.

The previous table shows that the duration of the illness was on the average lengthened by alcohol. There is no single group in which alcohol confers any advantage.

But this valuation not only enables us to contrast the sickness, it also shows us the death-rate at the same ages, and confirms the explanation we have given of the comparatively young average age of total abstainers. First, then, as to the deaths at various ages. The following is the table furnished :—

PERCENTAGE PER ANNUM OF DEATHS TO MEMBERS AT RISK.				
Ages.	Sons of Temperance. 1875-80.	Oddfellows, M.U. Rural Towns and City Districts. 1866-70.	Oddfellows, M.U. Rural Districts. 1866-70.	Foresters. 1871-75.
18—20	'34	'56	'51	'73
21—25	'46	'67	'62	'75
26—30	'25	'77	'72	'74
31—35	'79	'84	'81	'92
36—40	'54	1'04	'96	1'12
41—45	'62	1'25	1'19	1'34
46—50	'66	1'51	1'22	1'73
51—55	1'05	2'01	1'76	2'26
56—60	'98	2'66	2'45	3'05
61—65	5'55	3'98	3'42	4'14
66—70	<i>nil</i>	5'35	4'35	6'22
	11'24	20'64	18'01	23'00

Here at every age (except 61 to 65), we find that the mortality is lower among the total abstainers. The exception is due to the fact that there were only 48 members between 61 and 65 years of age, of whom three died; the smallness of the number renders the percentage accidentally high. This brings us to our next point, namely, that the number of old members in the Sons of Temperance is comparatively few. I take a later valuation, that for 1881-5, in which unfortunately the same details are not given as in those I have cited, but the number of members at each age is given fully, and that table covers almost all the time included in the Collective Investigation Committee's Report. As this is a vital point, I give it in full.

Age.	No. of Members.	Age.	No. of Members.	Age.	No. of Members.
16	45	36	96	56	8
17	96	37	77	57	10
18	155	38	74	58	17
19	164	39	78	59	9
20	171	40	59	60	9
21	195	41	74	61	9
22	192	42	61	62	5
23	180	43	70	63	6
24	174	44	74	64	11
25	161	45	73	65	7
26	159	46	39	66	1
27	149	47	34	67	5
28	152	48	29	68	0
29	116	49	33	69	2
30	127	50	25	70	0
31	113	51	21	71	1
32	92	52	21	72	0
33	100	53	17	73	2
34	126	54	16		
35	111	55	18		3,869

This table shows that 3,161 out of 3,869 were under 40 years of age, more than 81 per cent.; and the highest number was at the age of 21. I do not assert that this exactly corresponds with the age of abstainers generally, but it is quite sufficient to confirm the judgment which must be arrived at by any impartial thinker who considers the recent spread of total abstinence, and its comparatively wider adoption among the young.

I consider, then, that the explanation of the comparatively early death of the abstainers in the Report is now established beyond reasonable doubt. It would have been incredible that abstinence from that which produces disease and death in proportion to the quantity taken, should have been a cause of even earlier mortality than habitual drunkenness. Even without any apparent explanation, every thoughtful person must feel that there must be a key to such a paradox. It has long been the

dictum of the medical profession that the young not only do not need alcohol, but are better without it. That opinion, founded on reason and observation, has not been shaken. We may safely extend its scope. We may say that all true experience proves that there is no age when alcohol becomes either necessary or beneficial, and that, the longer it is taken, the more certainly may we reckon on proofs of gradual degeneration of tissue, resulting in premature disease, decay, and death. These opinions are securely based on the experience of the life assurance offices, and are beyond successful contradiction.

We are therefore confirmed in our judgment that the habitual indulgence in narcotic drugs, such as alcohol, is injurious to the body, and a danger to health and life, and we regard it as the peculiar duty of the medical profession to warn the public of the danger, and to set the example of total abstinence as the course most consistent with reason, and the only course which will effectually and altogether avert the injury, mental, moral, and physical, which has ever resulted from the custom of taking alcoholic liquors.



THE MODE OF ACTION OF ALCOHOL UPON THE NERVOUS SYSTEM.*

By DR. R. M. BUCK, *Medical Superintendent of the Lunatic Asylum, London, Ontario.*

THE nerve molecule is the essential element of the nervous system; it is elaborately built up of about a thousand atoms; it is the storehouse of force of the organism.

The atoms of which the molecule is composed are loosely built out from its centre, and its outmost atoms are easily displaced by the impact of any force upon them. When displaced they fall in toward the centre of the molecule, entering into closer chemical union with other atoms of the molecule, in this process (as in all similar chemical processes taking place either inside or outside a living organism) force is evolved.

During rest, especially during sleep, by means of matter and force introduced as food from without, the molecule is recomposed and made ready to again run down as required for the purposes of the organism, and again in running down to evolve the force needed to carry on the work of the organism.

* Read at the annual meeting of the British Medical Association, 28th May, 1889.

In periods of prolonged rest, in health, especially in youth, the molecule is built up and builded out, atom piled on atom, until its outer atoms and groups of atoms become extremely unstable (like a child's house of cards built very high), and the least impinging force is sufficient to cause the fall of large numbers of atoms into new and more stable positions with a corresponding evolution of force, which flows into channels suited to the ideas and emotions excited.

But even in ordinary circumstances, a structure so elaborate and complex as is the nerve molecule is easily disarranged. When a disturbing force of any kind impinges against it, the weakest ties between its atoms and parts of atoms will give way, and a larger or smaller number of the atoms will fall into new positions.

But in building up the atoms into the complex arrangement found in the molecule force has been employed, has become latent, has been stored up. And when the atoms lapse into simpler positions, just so much force is liberated as would suffice to build them from this new position back into the old one.

In ordinary life the molecules are discharged (that is, caused to run down) by the impact against them of nerve currents carried from without along an afferent nerve or flowing outward from a higher centre, the molecules being broken by the nerve current, just as the molecule of nitrate of silver ($\text{Ag} \cdot \text{NO}^3$) is broken by the impact of a ray of light, or the molecule of chlorate of potassium (K Clo^3) by the impact of a heat wave.

Perhaps it would be well if the nerve molecules could only be discharged by sense impressions derived from the outer world, and by nerve currents flowing from one part to another of the nervous system. Be this as it may, there is another method by which they can be and are broken and made to yield up their stored force.

We are accustomed to look upon alcohol as a homogeneous liquid. It is nothing of the kind (there is in fact nothing in nature which corresponds with the ordinary concept of a homogeneous liquid). Alcohol is a liquid, indeed, but a liquid made up of innumerable solid bodies, each one of which is a tolerably compact mass composed of nine atoms ($\text{C}^2 \text{H}^6 \text{O}$). These nine atoms do not touch one another, or, if they do, only by their ends or corners, for we see that they can come much closer together than as they are arranged in the alcohol molecule, as, for instance, when they take to themselves (in combustion) more oxygen and rush into more intimate union as carbonic acid gas (CO^2) and water ($\text{H}^2 \text{O}$), giving out in the process a large volume of force. The alcohol molecule, therefore, must be conceived as a somewhat scraggy and angular body, not nearly as compact and solid as,

for instance, a molecule of sulphuric ($\text{H}^2 \text{SO}^4$) or phosphoric ($\text{H}^3 \text{PO}^4$) acid, but infinitely more solid than a nerve molecule.

In size the alcohol molecule is to the nerve molecule about as 1 to 100. There is every reason to believe that when alcohol is drunk, more or less of it passes as alcohol, *i.e.*, unchanged, into the substance of the brain and other nerve centres, the alcohol molecules passing in all directions between and among the nerve molecules. If it does so, the effect it must produce is obvious. The alcohol molecule is probably a thousand times as hard to break as is the nerve molecule. When, therefore, they come together, it is the old story over again of the earthenware pots and the iron pots. In the case before us, the nerve molecules are the earthenware pots, which are on all sides crushed, bruised and broken by the alcohol molecules, receiving injuries in direct proportion to the number of these last that is thrown among them.

Let us now look at this matter a little more in the concrete, and compare the effects which we see produced by alcohol in actual life with the effects above described, which are supposed to be produced by the alcohol molecules upon the nerve molecules.

We have seen that, when the outlying atoms of a nerve molecule are shaken out of place and fall in toward the centre of the molecule, force is evolved. It is clear that if alcohol molecules pass among and between nerve molecules, rubbing against them, they must knock and shake the outlying atoms of these out of place. Observe now a man swallow several ounces of alcohol, and note the effect produced. His eyes brighten, his muscles brace up, become more tense, his ideas flow, he begins to talk, perhaps sing, speaks louder than usual, wants to fight, feels that he is very strong, that he can lift great weights, run very fast, jump great distances. All this (on the hypothesis) simply means that the alcohol molecules, rubbing against the nerve molecules, have caused more or less collapse of a greater or less number of these, and that in the process, as already explained, more force is being given out than is required for the purposes of the economy at the time. Let the man take no more alcohol. After a short time this extra evolution of force ceases, and he feels dull and languid. Why? Because the nerve molecules are not, until they have time to recover themselves (*i.e.*, are rebuilt) in a position to give out that constant flow of force which keeps the muscles braced up, supports the tone of the whole system, and gives rise to the feeling of *bien-être*, characteristic of vigorous health. But after a certain period of sleepiness, discomfort and languor, the nerve molecules are recomposed, rebuilt, and the man is well again.

But suppose the man does not stop at a few glasses, but goes on drinking. He becomes still more noisy, perhaps violent. The

alcohol molecules becoming more and more numerous in the brain, press closer and closer upon the nerve molecules, break these down more and more—force being given out in proportion as the nerve molecules are caused to collapse.

There is of course a limit to this process. After a certain quantity of alcohol has been drunk and absorbed, the nerve molecules in the higher nerve centres are broken down until no more collapse of them is possible, and force ceases to be given out. When this point of intoxication is reached the man is said to be “dead drunk.” In order to recover from this condition two things are necessary—first, to remove from the brain substance the alcohol molecules which are clogging it up and preventing the restoration of the nerve molecules, and second, to re-construct the nerve molecules. The constant inter-vascular circulation will soon accomplish the first, and the vital processes the second, if the man will only abstain for a time.

But suppose the person drinking goes beyond the limit of what is called getting “dead drunk” and drinks alcohol so copiously and so fast that before he becomes insensible—and so incapable of drinking—he has swallowed enough alcohol to paralyse not only the higher nerve centres but the lower ones also, what happens then? It is this: the nerve centres are in the manner explained first stimulated and then paralysed in a certain order. First the centres of intellectual and emotional life are excited, then paralyzed; next the centre of co-ordination suffers and the man cannot control his movements. Next, the base of the brain and cord are first stimulated and then paralysed and the man dies, because, the nerve centres of respiration being paralysed, he cannot breathe. If breathing is kept up artificially, and the quantity of alcohol taken has been sufficient, the man dies from paralysis of the nerve centres supplying the heart.

If we consider the different conditions of the system in which alcohol is ordinarily taken, and the effects produced by it in these conditions, and then apply to each the above hypothesis of the action of alcohol, we shall see that this exactly explains what actually happens in each case. For instance, people take alcohol when greatly fatigued, and we know it removes the feeling of fatigue. But what does fatigue mean? It means that in certain regions of the nervous system the nerve molecules have been called upon by a long continued strain to give out force until they have run down into a condition in which it is extremely inconvenient for them to run down any more, until they have first had an opportunity to rebuild and restore themselves during a period of quiescence. This being the case the man has for the time being run short of vitality, *i.e.*, of force. In this condition he takes a dose of alcohol; the molecules of this do for him what he

could not and ought not to do for himself, they traverse in all directions the brain substance and force by their physical impact the nerve molecules to run down still more and give out force, when of themselves they would not and could not give out any more. The feeling of fatigue—the lacking force being supplied to the system—passes away and is replaced by a feeling of comfort.

The same explanation applies to using alcohol when in low spirits, when out of breath, when weakened by illness.

My contention in brief is that the alcohol molecules pass from the stomach, after being swallowed, into the circulation, are then carried by the arteries to all parts of the body. When they reach a nerve centre they pass through the coats of the vessels and permeate the nerve substance, the alcohol molecules coming into direct physical contact with the nerve molecules, and the effects of alcohol which we observe in a person under its influence are simply the results of this physical impact.

The facts and the reasoning by which this proposition is established are as follows: In the first place, alcohol has been found in the brain in several instances and in considerable quantities in cases of persons who have suddenly died while under its influence. It remains to demonstrate how it produces its effects.

Common alcohol, as is well known, is not the only substance which intoxicates—that is, which being carried by the blood to the brain, at first excites then paralyses that organ—the proof to which I have above referred is established by an examination of the whole group of intoxicants, and especially by comparing them one with another and noting the relation which exists between their chemical composition (*i.e.*, between the size of their molecules) and their effects upon a living nerve centre.

The number of chemical compounds which are capable of producing effects analogous to that of common alcohol is very great. For the purpose of the present argument I shall refer only to those named in the table which follows:

NO.	NAME.	FORMULA.	NO. OF ATOMS.	ATOMIC WEIGHT.
1	Laughing-gas ...	$N^2 O$	3	44
2	Methylic alcohol ...	$C H^4 O$	6	32
3	Sulphuric ether ...	$C^2 H^5 O$	8	45
4	Common alcohol ...	$C^2 H^6 O$	9	46
5	Amylic alcohol ...	$C^5 H^{12} O$	18	88
6	Chloroform ...	$C H Cl^3$	5	119.2
7	Chloral hydrat ...	$C^2 H Cl^3 O H^2 O$	8	165.2
8	Morphia ...	$C^{17} H^{19} N O^3 H^2 O$	43	303
9	Strychnia ...	$C^{21} H^{22} N^2 O^2$	47	334

The whole group of intoxicants has this in common, that upon being taken into the body they permeate the nervous system, or a part of it; *i.e.*, they leave the blood-vessels which carry them to the nerve centres and their molecules become diffused among the nerve molecules. They all act by direct physical impact upon the nerve molecules.

Sugar ($C^{24} H^{28} O^{28}$), starch ($C^6 H^{10} O^5$), resin ($C^{44} H^{62} O^4$), and a thousand other harmless substances, would also be toxic agents and deadly poisons if their molecules could leave the vessels and pass into the substance of the nerve centres.

How is it that one molecule can pass and another cannot? This is no doubt a simple question of physics. Doubtless the size and shape (the latter quite unknown to us) determines which can pass and which cannot.

Again, every substance whose molecules pass through the coats of the vessels into the substance of the nerve centres is not an intoxicant. Sulphur (S), for instance, passes as freely through all the tissues of the body, including the nerve centres, as any of the alcohols, but produces no intoxication. The reason it does not is doubtless that being an elementary body and not a compound molecule its atom is small and smooth, and does not injure the nerve molecules as it passes between them. So water ($H^2 O$, atomic weight 18) passes freely among the nerve molecules and does not injure them. Again the proteids, whose molecules are perhaps half as large as nerve molecules, immensely larger than the atoms of any of the alcohols, pass through the coats of the vessels and come into direct contact with the nerve molecules. Why do not they break and injure these latter? The reason is: first, that they are soft like the nerve molecule itself and not hard like a morphia or alcoholic molecule; and second and chiefly, that on account of the vital affinities that exist between them and the nerve molecules, they come into friendly and not hostile relations with these. But the molecules of alcohol, chloral, morphia, &c., &c., have no business among the nerve molecules, no provision is made for them there, and when they get there they are simply foreign bodies, hostile elements.

Toxic agents, therefore, are substances whose molecules can pass among the nerve molecules; but no provision being made for them, and they not being wanted there, and being too large, hard and angular, to slip past without friction, they cannot pass among these without jostling and injuring them.

If, now, we compare the effects upon the nerve centres of the nine substances above named, *viz.*: laughing gas, methylic alcohol, sulphuric ether, common alcohol, amylic alcohol, chloroform, chloral hydrat, morphia and strychnia, we shall find a curious relation to exist between these effects and the size of the respective molecules.

If these toxic agents act as I have said they do, we should find that those which have large and heavy molecules would do more injury to the nerve centres upon which they act than those which have comparatively small and light molecules, that they would produce the deepest and deadliest intoxication, and that their effects upon the nerve centres would be more prolonged for two reasons: first, because being bigger and heavier they would by their impact inflict greater injury upon the nerve molecules; and, second, because their size would render them more liable to stick among the nerve molecules, and so by their continued presence both continue the injury they had already done, and prevent the nerve molecules being restored to their normal condition.

This is exactly what we find to be the case. In every instance the larger and heavier the molecule of the toxic agent the more deadly and prolonged is the intoxication produced by its use. We will consider this proposition in detail.

1. The effects of laughing-gas (N^2O , atomic weight 44) are extremely evanescent, more so than any other body on our list. There is here an apparent partial exception to the rule just laid down, for the atomic weight of this substance is 44, while the atomic weight of methylic alcohol is only 32. The explanation is that the number of atoms in a molecule of laughing-gas is only three, while in a molecule of methylic alcohol there are six. A mass made up of six bodies loosely built together (as we know the atoms are in methylic alcohol) will pass through a narrow and tortuous passage with much greater difficulty than will another mass made up of three bodies, everything else being the same, since the latter would be more compact and less rough and angular; and this even if the weight of the simpler mass should be somewhat the greater. So we can readily understand why the molecules of laughing-gas do less harm and remain a shorter time among the nerve molecules than do the molecules of methylic alcohol. The intoxication produced by laughing-gas only continues a few minutes after the inhalation of the gas is discontinued.

2. When methylic alcohol ($\text{C H}^4 \text{O}$, atomic weight 32) is drunk it produces all the effects of common alcohol, but produces these effects more rapidly. So also its effects are much more evanescent than are those of common alcohol.

3. The molecule of sulphuric ether ($\text{C}^2 \text{H}^6 \text{O}$, atomic weight 45) is nearly equal in weight and number of atoms as that of common alcohol. As a toxic agent it is given by inhalation, while alcohol is taken by the mouth. If allowance be made for the different mode of administration its effects are very much the same as those of common alcohol.

5. The number of atoms in a molecule of amylic alcohol

($C^5 H^{12} O$, atomic weight 88), is twice as great as in a molecule of common alcohol, and its atomic weight is almost twice as great. When swallowed in sufficient quantity, it produces a state of intoxication similar to that caused by common alcohol, but it takes longer than the latter to produce its effects. The excitation or stimulation produced by this agent soon passes off and is followed (if enough has been taken) by three stages of insensibility, ending in the profoundest narcotism. Drunkenness caused by this agent does not entirely pass away in less than from two to three days.

Comparing then these five substances, we find that the duration of the effects of each is in proportion to the number of atoms contained in their respective molecules, and therefore presumably in proportion to the resistance they meet with, and the injury they inflict in passing through the brain substances and between its molecules. This will be clearly seen if the name, number of atoms, and duration of effects, be thrown into a tabular form as follows :—

1	L. G.	...	3	Atoms	...	Few minutes.
2	M. A.	...	6	„	...	3 to 6 hours.
3	S. E.	...	8	}	„	10 to 15 hours.
4	C. A.	...	9			
5	A. A.	...	18	„	...	48 to 72 „

While the facility with which they produce intoxication, and the lightness or gravity of their toxic effects, also correspond with the size of the molecule causing the disturbance.

The other four substances which have been named, viz., chloroform, chloral, morphia and strychnia, do not admit of such an exact comparison, their chemical composition being diverse from that of the alcohols and from one another. The molecule of chloroform is made up of five, that of chloral of ten atoms ; but in the case of each three of these atoms are atoms of chlorine, whose chemical equivalent is 35.4, and whose atom is therefore immensely heavier than an atom of any of the elements which enter into the composition of any of the alcohols above considered.

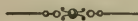
Intoxication from chloroform or chloral is at least as prolonged and deep as that from amylic alcohol.

In this connection it is necessary to remember that a drug given by inhalation acts much more speedily than the same drug taken into the stomach, so that we cannot compare the effects, for instance, of chloroform or sulphuric ether, inhaled with those of chloral or common alcohol taken by the mouth. We may, however, compare chloroform inhaled with sulphuric ether in-

haled—and chloral taken by the mouth with common alcohol taken the same way, and then we find that the law of which we are speaking is always observed. The effects of sulphuric ether (inhaled) are produced more rapidly and pass off in much less time than the effects of chloroform. So the effects of common alcohol (drunk) are produced more rapidly, and pass off more rapidly, than the effects of chloral taken into the stomach.

It remains to say a few words upon the effect produced upon the nervous system by morphia and strychnia. A molecule of morphia contains forty-three, and one of strychnia forty-seven, atoms. They both strictly obey the law laid down, since their effects are more slowly produced, last longer, and pass off more slowly, than in the case of the bodies with smaller molecules. The effect of one full dose of either of these drugs (the dose of course not being fatal) lasts several days. Strychnia, as well as morphia, is a true intoxicant, its action being precisely parallel to that of the other bodies referred to; the only difference being that it acts on the motor centres, while they act first and chiefly on the centres of moral and intellectual life.

Were there space here to continue the argument, it could be shown that the effect produced upon the nervous system by the long-continued habitual use of alcohol could all be explained by the supposed injury done to the nerve molecule by the alcohol molecule, and by the continued (in some cases constant) presence of the latter among the former.



Miscellaneous Communications.



THE PREMONITORY SYMPTOMS OF ALCOHOLIC PARALYSIS.

By JAMES ROSS, M.D., LL.D., F.R.C.P., *Physician to the Manchester Royal Infirmary; Joint Professor of Medicine to the Owens College.*

NOTHING helps us so much in the treatment of a disease, if it be of such a nature as to be capable of cure or amelioration, as an early recognition of the symptoms of its inception. This statement, true with regard to most affections, assumes additional significance when we have to treat a disease like alcoholic neuritis, which can be readily cured in its early stages by the simple withdrawal of the poison, with-

out any special treatment, but which, when fully established, may resist all treatment or prove rapidly fatal.

Alcoholic paralysis on attaining to the stage of double wrist and ankle drop, loss of the patellar-tendon reactions, and high-stepping gait, is now readily recognised by every moderately well-informed practitioner, and accurate descriptions of it have found their way into ordinary text-books of

medicine. It is, therefore, quite unnecessary for me to give in this place a detailed description of the condition. I will also pass over such well-known signs of alcoholic poisoning as a bloated face, lightning-like and neuralgic pains in the extremities, morning retching and muscular hyperæsthesia, in order to direct special attention to three symptoms, which I believe to be hardly ever, if ever, absent as forerunners of this form of paralysis, although they are by no means peculiar to poisoning by this agent, being met with in other forms of peripheral neuritis. These symptoms are:—(1) Disorders of the tactile sensibility of the extremities, which patients usually describe as numbness of the fingers and toes; (2) vaso-motor spasm of the extremities named by Raynaud "local asphyxia," and which the patients refer to as "deadness" and coldness of the fingers and toes; (3) severe cramps, which are most frequent and severe in the muscles of the calf, although these muscles are by no means the exclusive seat of them.

In order to give greater vividness to my description of these symptoms, I have instructed my clinical clerk to note down in my presence the statements of five patients, the subjects of chronic alcoholism, now under treatment in the wards of the Manchester Royal Infirmary. In order to avoid details, I shall only give such a rough sketch of the present condition of these patients as I think will enable the instructed reader to fill in the clinical picture presented by each from his own knowledge and experience.

CASE 1.—G. C.—, aged fifty-one years, a lawyer's clerk, states that he has drunk freely of beer, but only occasionally indulged in whisky or brandy. His lower extremities, his body (especially over the loins and buttocks) and his left upper extremity are œdematous, but there is little or no swelling of his face or eyelids, even in the morning. The area of cardiac dulness is enlarged; the apex is displaced slightly downwards and outwards; the first sound at the apex is

impure, the sound at the base is highly accentuated; and the action is very irregular; while the pulse beats 110, and is feeble and intermittent. Scattered sonorous ronchi are heard over both lungs, and the patient expectorates a moderate quantity of frothy mucous. The urine contains a small quantity of albumen, but its specific gravity is 1020, and it deposits a considerable quantity of urates on cooling. The patient's grasp is feeble, and he experiences some difficulty in performing special movements with the fingers and thumb, but there is no distinct wrist drop. The patient is very feeble on his legs, but there is no ankle drop, and no distortion of the toes. The patellar tendon reactions are, however, absent, and the muscular masses of the extremities are very tender to pressure. The diagnosis of this case is that, although the urine contains a little albumen, the anasarca is due, not to renal disease, but to dilatation of the heart caused by the abuse of alcohol, the condition being aggravated by the presence of a little bronchitis.

CASE 2.—A. G.—, aged forty-nine years, market porter, states that he drank freely of beer, but had whisky or spirits of any kind only on rare occasions. The patient is suffering from ascites; he has been tapped once since his admission, and now he is filling up again. The liver dulness is only about an inch in vertical extent, and the veins on the surface of the abdomen and chest are distended and fill from below. The patient is feeble and emaciated, but there is no special paralysis, and the patellar tendon reactions can still be elicited, although they are very sluggish. The diagnosis is alcoholic cirrhosis of the liver. There is no tenderness on pressure of the muscles.

CASE 3.—G. C.—, aged forty-nine years, coachman, admits that he indulged freely in alcohol, although he never got drunk. His regular habit was to have a glass of rum in milk when he got up in the morning; he had a glass of beer in the forenoon, another to dinner, and a third when he got home at night, to be followed

by whisky when he could get it. He is suffering from anasarca of the lower extremities and trunk, but the upper extremities and face are free from any swelling. The cardiac dulness is enlarged and the apex is displaced slightly downwards and outwards. A soft systolic murmur is heard at the apex, and the second sound at the base is highly accentuated. The urine is pale, specific gravity 1010, and contains a considerable quantity of albumen, while a few fatty casts have been found in it. The grasp is feeble, and the patellar-tendon reactions are absent, but there is no wrist or ankle drop, and no evidence of particular paralysis beyond general weakness. The muscles of the calf were tender on pressure when the patient was admitted to the infirmary about six weeks ago, but this has now disappeared. It is possible that in this case there is a renal complication, but the absence of œdema from the upper extremities and face seems to indicate that the anasarca is due to cardiac dilatation, of alcoholic origin.

CASE 4.—J. S.—, aged forty-six years, tramcar conductor, says that he drank freely of beer and whisky. He is suffering from double wrist and ankle drop, high-stepping gait, loss of patellar-tendon reactions, muscular hyperæsthesia, and other sensory symptoms which are usually met with in a moderately advanced case of alcoholic paralysis.

CASE 5.—A. A.—, female, aged sixty-three years, entered the infirmary under the care of Dr. Lloyd Roberts. She denies having indulged to excess in alcohol. She is the subject of an ovarian cyst, but the abdomen is not much distended. Her lower extremities are partially paralysed, so that she cannot stand without support, and some months ago she was hardly able to move her feet in bed. There is double ankle drop, and the toes are flexed into the soles of the feet. The grasp is feeble, but there is no distinct wrist drop. The patellar tendon reactions are absent. There is, however, no muscular hyperæsthesia or other sensory disorders. The diagnosis is that the patient is suffering from alcoholic paralysis, but

that she has not had access to alcohol for some months, and that she is now slowly recovering motor power, while the sensory symptoms have disappeared.

The following is the account these patients gave of themselves on being questioned with regard to the three symptoms already mentioned—viz., numbness of the fingers and toes, local asphyxia, and cramps.

G. C.— (Case 1) states that, for the last three years, when he got to the office in the morning his fingers were so numb that on closing his eyes he could not tell whether he held the pen or not, and he experienced considerable difficulty in buttoning his clothes. He had to rub his hands together for about ten or fifteen minutes before he could write. His feet were also so numb that he could not feel the floor; they felt as if "sensation was out of them." He was afraid of closing his eyes whilst washing lest he should fall forward. On getting up in the morning, the tips of his fingers up to the first joints became of a dark livid colour, and he had to dip them in warm water in order to get the colour back and to warm them. He had a great dread of touching cold warm water in the morning. His feet were also so cold that he had to stamp them frequently on the floor to warm them. When he began to write in the morning, his forefinger and thumb often became strongly cramped, and the pen was held so fast that he had sometimes to remove it with the other hand. His toes also felt as if they were forcibly drawn down into the sole. About half an hour after going to bed, and just as he was about to fall asleep, he was frequently seized with cramp in the calf of one or other of his legs, but seldom in both together. During the attack his heel was drawn up, and the muscles of the calf formed a round hard mass larger than his closed fist. When the attack was severe he had to jump out of bed and put the soles of his feet on the floor, and not unfrequently he had to walk downstairs and sit for an hour rubbing his legs and warming them before the fire.

On these occasions he often warmed a pint of beer, and on getting thoroughly warmed himself after drinking it he could go to bed and fall asleep.

A. G.— (Case 2), suffered for the last two years from so much numbness of the fingers that he experienced difficulty in buttoning his clothes in the morning, and whilst driving he often could not tell without looking whether he held the reins in his hand or not. His feet also felt numb, and he suffered very much from a sensation of “pins and needles” in them. On getting up in the morning, his fingers up to the first joint became of a dark livid colour, and “felt as if they were dead.” He generally washed his hands in cold water, although he much preferred warm water, but seldom could get it, as he had to leave home very early in the morning. He had to rub his hands for some time in order to “get the blood to circulate.” At other times he warmed them by a fire, whilst not unfrequently he had recourse to drinking a glass of beer. About half an hour after going to bed, and just as he was about to fall asleep, he was frequently seized with cramp in the calf of one or other of his legs, but never in both at once. The cramp was not often severe enough to compel him to get out of bed; he generally rubbed the affected calf for about fifteen or twenty minutes, when the spasm usually subsided and he was able to sleep.

G. C.— (Case 3) states that he suffered for many years from numbness of his fingers, and it was quite usual with him to feel uncertain whether or not he held the reins in his hands without looking at them. He had considerable difficulty in buttoning his clothes, as he was unable to feel any article he touched. He did not suffer much from numbness of the feet or toes. In the morning his fingers felt quite cold and dead up to the second joints, and he had to rub them for some time to warm them. He never suffered, however, from cold feet; on the contrary, he was troubled with burning of the soles, and he often slept, even in cold weather, with uncovered feet. The plantar nerves are somewhat

tender to pressure, and great pain is caused by pressure over the point of bifurcation of the nerves between the ends of the metatarsal bones. The anterior parts of both soles become of a red colour when the feet are hanging down. The patient states that he has suffered greatly from cramps. His fingers were often “drawn in all ways,” and he had “to straighten them with the other hand.” Soon after going to bed he was often seized with cramp in the legs and thighs, when he had to “fly” out of bed and jump about the room for from five to twenty minutes. In severe seizures he had to go downstairs, so as to get his feet on the flagstones, as he found that exposure to the cold arrested the cramp sooner than any other proceeding.

J. S.— (Case 4) felt his fingers so numb that he could not hold any object in either hand in the dark or with closed eyes. In his occupation as tramcar conductor he was even unable to give change to the passengers. When he put his hand into his bag he could not feel the coins, and some of them got between his fingers, so that on withdrawing his hand these fell on to the floor of the car. At last he was obliged to ask the passengers to help themselves to change. On getting up in the morning his fingers became quite dead up to the second joints, and although he was the first in the house to get up, he waited until a pan of water got warmed on the fire rather than wash in cold water. If ever he was compelled to use cold water, his hands felt quite dead for an hour subsequently, and he had to rub them for a long time before “the blood began to circulate.” He also suffered very much from numbness of the toes, and his feet were so cold in the morning that, for the first journey, he was in the habit of running about half a mile by the side of his car in order to get them warm. The patient also suffered very much from cramps. His fingers were sometimes drawn, and, in sitting by the fire after his day's work, the calf of one or other leg was often seized with severe cramp. He had also frequent attacks of cramp of the calf about half an hour after

going to bed. When the attack began, the affected calf was drawn up into a "lump" bigger than his clenched fist; he then had to jump out of bed and press his toes on the floor, while he had to rub the muscles sometimes for over half an hour before the spasm finally yielded so that he could return to bed. He preferred to stand on a carpet rather than on the bare floor, and never placed his bare feet on a stone flag.

A. A.—(Case 5) states that, for upwards of two years, her hands were often so numb that she could not feel anything she touched, and could not tell from touch alone the texture of the cloth she held in her hand whilst sewing, and did not know, except by looking, whether or not she held the needle between her finger and thumb. At first her hands used to ache and burn; but after a time her fingers, especially on getting up in the morning, became quite dead and cold up to the first joints. She always washed in cold water, but immediately afterwards she rubbed her hands before the fire in order to warm them. She also suffered from numbness and great tenderness of the feet. The patient suffered considerably from cramps of the fingers when she was sewing or knitting; but her greatest distress was caused by cramp of the calf, which came on soon after she went to bed, and was generally ushered in by drawing down of the toes. In the early stage of her disease, when seized with cramp of the calf, she jumped out of bed and stamped her feet on the floor; but by-and-by she was unable to stand, and was obliged to content herself with sitting in bed and rubbing her leg until the spasm subsided. At a still later period she became too weak to sit up in bed, and her husband rubbed her legs for her, but after a time her "flesh became so sore," that she preferred to endure the cramp rather than suffer the pain caused by the rubbing.

Now, although the three symptoms which I have just described are probably always present at a moderately early stage of chronic alcoholic poisoning, yet it must be remembered that

they are also met with in other forms of peripheral neuritis. I have myself observed them in the neuritis which supervenes in the course of rheumatism, gout, and diabetes, in that caused by chronic poisoning with the fumes of bisulphide of carbon and with the new explosive agent named "roburite," and in that form of multiple neuritis named by Dr. Weir Mitchell "erythromelalgia." Numbness of the fingers forms a prominent feature of diphtheritic and post-febrile paralyses, but I have not met with local asphyxia or cramp in these affections. A few cases of lead paralysis have come under my observation in which the patients complained of all three symptoms; but in these cases there was a suspicion of a complication of alcoholism as well.* Numbness and local asphyxia of the fingers and toes often accompany hæmoglobinuria, extreme anæmia, and cancerous and other forms of cachexia; and many persons suffer from them habitually in the absence of any discoverable cause. It must also be remembered that in females pregnancy or uterine displacements may give rise to cramp of the calf and cold extremities, and that in both sexes the same symptoms may be caused by a loaded rectum or irritation of the bladder, and, reflexly, by irritation of still more remote organs. But although these symptoms, either separately or in various combinations, are met with in many affections besides chronic alcoholism, yet I do not think they are ever present in the aggravated form in which they appeared in these patients except as the result of excessive drinking or the pro-

* Since the above was written, a young girl, who works in a "red-lead factory," has come under my care in the infirmary. She has a well-marked blue line on the gums, double wrist drop, loss of the patellar-tendon reactions, and double optic neuritis. This patient has suffered from numb and dead fingers, and from cramps of the calf of special severity. She states that beyond an occasional glass of beer she never indulged in alcoholic stimulants, and nothing we can gather about her character and habits tends to cast suspicion upon her assertion.

longed exposure to the action of some other poison like the fumes of bisulphide of carbon. These symptoms are all the more valuable as affording an indication of secret drinking, because they appear long before there are any signs of paralysis, and at a time when the patellar-tendon reactions, instead of being absent, are either normal or exaggerated. But it is not necessary that all those who are suffering from the minor degrees of alcoholic neuritis should be heavy drinkers. It is, indeed, surprising what a small quantity of alcohol suffices to induce the premonitory symptoms of the disease in some subject, the females of neurotic families being particularly sensitive to its action. Nothing perhaps better illustrates the great sensitiveness of the nerves of some people to alcohol than the fact that a few glasses of one kind of alcoholic beverage will suffice to induce the early symptoms of neuritis, while other kinds may be taken daily with comparative immunity. It is a matter of common remark that gouty subjects are very sensitive to beer or port wine, while they can consume a fair quantity of sherry or whisky without experiencing any ill-effects. I met a gouty friend one day at a public dinner, and knowing that he was of abstemious habits, I made a remark upon the fact that he was having a glass of wine. "Yes," said he, "I take a glass of dry sherry to dinner, and I sometimes take a little whisky. I am also very fond of beer; but," he continued, "I am very gouty, and were I to take a glass of beer just now, my hands before night would burn, my fingers would tingle, and the tips would get quite numb; and were I to persist for a few days in taking a single glass of beer to dinner, my finger-nails would crack longitudinally, and break off so that the edges would become jagged." The above description corresponds much too accurately to the symptoms of a slight degree of neuritis of the sensory nerves of the hands to require further comment.

It will be noticed that every one of the five patients whose cases are here narrated had to rub their hands to-

gether for ten or fifteen minutes in the morning in order to warm them, or for the purpose of getting "the blood to circulate." This habit seems not to have escaped the observant eye of our great dramatist, for Lady Macbeth is represented as being addicted to it. In the sleep-walking scene, the doctor, who with a waiting gentlewoman is a spectator, asks, "What is it she does now? Look how she rubs her hands." The gentlewoman replies: "It is an accustomed action with her to seem thus washing her hands; I have known her continue in this a quarter of an hour." That Shakespeare represents Lady Macbeth as drinking wine to nerve her for her fiendish purpose is proved when, after having drugged the two chamberlains into "swinish sleep" by "wine and wassail," she says:—

"That which hath made them drunk
hath made me bold;
What hath quench'd them hath given
me fire."

It is not pretended that Shakespeare knew there was any connection between the abuse of wine and this rubbing of the hands; all that can with probability be asserted is that the original of the character of Lady Macbeth was one who indulged to excess, and was observed to have this habit of rubbing her hands.

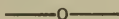
With regard to the cramps, it is important to notice that the patient seldom complains of them, and the fact of their presence has almost always to be elicited by cross-examination. This explains how it is that the presence of cramps in peripheral neuritis has hitherto almost entirely escaped notice. In opening the discussion on Peripheral Neuritis in the Pathological Section at the meeting of the British Medical Association at Brighton (1886), I stated that "I never could assure myself that the paralysis was in any case preceded by active spasm of the affected muscles."* I was quite familiar with the fact that in alcoholic neuritis the patients com-

* *British Medical Journal*, vol. i., 1887, p. 6.

plained bitterly of pains in the lower extremities, which they called "cramps;" but I persuaded myself at the time that these so-called "cramps" were identical with the shooting and neuralgiform pains which form such a prominent characteristic of neuritis. The same difficulty appears to have presented itself to the mind of Dr. Frederick Taylor,* for, in a recent paper on Multiple Neuritis, he says: "In Case 3 there was much com-

plaint of 'cramps,' 'spasms' in the limbs, the nature of which was difficult to make out." Having now for the last two years questioned minutely a large number of patients, suffering from alcoholic and other forms of multiple neuritis, I have no doubt whatever that the pains described as "cramps" are really due to tonic spasm of the calf and other muscles, the torture caused by them being aggravated by the hyperæsthetic condition of the affected muscles.—*Lancet*, June 8.

* Guy's Hospital Report (London, 1888), p. 274.



DOES INEBRIETY CONDUCE TO LONGEVITY?*

By NORMAN KERR, M.D., F.L.S.

FROM different parts of the United Kingdom, and from many countries, I have been inundated by pressing requests to "expose the falsity" of such startling statements as the following, copied from one of many similar cards, which, in various languages, are reported to me to have attained an enormous circulation at the hands of persons interested in the manufacture and sale of intoxicating drinks:—

"TEETOTALISM DANGEROUS TO LIFE."

"The following table, taken from the Committee of the British Medical Association, in connection with their investigation on Disease and Alcohol, appears to place the advocates of the pump in an unenviable position:

	Yrs.	Days.
A. Total Abstainers ...	51	80
B. Decidedly Intemperate	52	14
C. Free Drinkers ...	57	216
D. Careless Drinkers ...	59	246
E. Habitually Temperate	62	50

"From this it will be gathered that even the HABITUAL DRUNKARD has

the advantage of the Blue Ribbonist by one year, and the temperate beats him by more than a decade."

The excellent people who have written to me have nearly all declared their disbelief either that such an inquiry ever took place, or that such figures were ever issued by any scientific body of medical men, and with one accord they bewail the publication as a "terrible blow to temperance."

My good friends have been as mistakenly incredulous as they have been needlessly afraid. A moment's reflection ought to teach that no returns showing a greater average premature mortality among abstainers than among drunkards, under ordinary and equal conditions, can possibly be accurate. Common sense, with very little knowledge and experience, should suffice to prove that there is a vital flaw somewhere in any anti-abstinence application of these eccentric statistics. The misstatement (if designed) is too gross to be explained away; the blunder (if unintentional) is too palpable to avoid detection.

It is quite true that such figures were set forth, but it is NOT TRUE:—

(1) That they warrant any deduction in favour of the superior longevity of excessive or limited drinkers. (2) That the British Medical Association

* Presidential address at the Annual Meeting of the Society for the Study of Inebriety, 2nd April, 1889.

or any of its committees or officers gave utterance to such an absurd and unfounded conclusion.

These are the facts. In the course of enquiry into "the connection of Disease with the habit of Intemperance," an appeal was made by the Collective Investigation Committee to the 13,000 members of the British Medical Association to fill up returns showing (among other particulars) the age and cause of death of male patients who had died over the age of twenty-five years, from the counterfoils of each practitioner's death certificate book for the preceding three years. The report was presented by Dr. Isambard Owen at the annual meeting of the Association in Dublin in 1887, and was published in the *British Medical Journal*, June 23, 1888.

Dr. Owen, who collated the returns, has again and again publicly repeated the disclaimer EMBODIED IN THE REPORT of the Investigating Committee, viz. :—"We have NOT in these returns the means of coming to any conclusion as to the relative duration of life of total abstainers and habitually temperate drinkers of alcoholic liquors."

The Committee in their report state, *inter alia*, that on the whole they may not unfairly claim to have placed upon a basis of fact this conclusion, viz. :—"That habitual indulgence in alcoholic liquors beyond the most moderate amounts has a DISTINCT TENDENCY to SHORTEN life, the average shortening being roughly proportional to the degree of indulgence."

It is therefore manifest that a wrong use has been made of the figures given in the Committee's report; that there is NO WARRANT for the printed statement that "the habitual drunkard has the advantage of the Blue Ribbonist by one year, and the temperate beats him by more than a decade;" and that this statement is directly opposed to the terms of the British Medical Association report.

Notwithstanding the explicit language of the report, and authoritative contradictions by the *British Medical Journal*, by other leading medical papers, by Dr. Owen, and by other

persons with a knowledge of the facts, the misapplication of the figures and the misrepresentation of the committee's report are persistently being promulgated far and wide. It may therefore be useful to enter a little into details.

This investigation, however serviceable as a guide to future enquiries, was too defective to warrant and dogmatic general conclusions.

One of the chief defects of this report arises from the limited number of medical men who have reported, and the small total of deaths returned. Returns were received from only 178 members (two of whom practise in the colonies, two in Ireland, and five in Scotland), and the whole number of deaths recorded was but 4,234. These data are much too restricted (being only about one per cent.) to afford a sufficient basis for founding any reliable generalisation as to the effects of temperance or intemperance on the total of male deaths at more than twenty-five years of age, that took place in the kingdom during the three years over which the returns extended.

A still more serious defect is the loose method employed in the collection of the returns, which were simply drawn from the death - certificate counterfoils of the three preceding years. The memory of a busy medical practitioner is too overburdened to admit of reliance being placed upon recollection of particulars of cases even a few months back. This defect, in my opinion, alone suffices to vitiate the report as a whole. Probably not half a dozen of the reporters had their attention, during the period of observation, directed to the relation of a temperate or intemperate habit of life to the causes of death. I have no doubt that the reporters have all done their best to give as accurate returns as possible; but from my own experience of a previous attempt to secure a similar return on a much smaller scale—for a preceding period of twelve months—I feel confident that the only judicious plan would be to ask reports of deaths for a FUTURE period, extending, say, from January

1st, 1890, over one, two, or three years. The practitioner could then fill in the particulars (to which his attention would be specially called), of each death, while his remembrance of the circumstances would be fresh and trustworthy.

A third important defect is that of classification of drinkers into (1) the habitually temperate, (2) careless drinkers, (3) free drinkers. The habitually temperate are defined as drinking small amounts, only with meals, and rarely taking spirits except as a medicine. The latter part of this definition did not apply to whisky-drinking countries, so that the Scottish and Irish figures are on a different footing from those of England. The careless drinkers were described as neither "intemperate" nor "free," yet as not confining themselves within a rigid rule, not objecting to spirits occasionally as a beverage, at times drinking between meals, or even getting drunk occasionally, but not making either practice a habit, and, on the average, not materially exceeding the so-called "physiological quantity" of one and a half ounces of pure alcohol daily. The free drinkers were stated to be men who drink a fair amount, or take their wine freely, habitually exceeding the physiological quantity to a material extent, yet who could not be called drunkards or be considered as having forfeited a reputation for sobriety. The decidedly intemperate were called "drinking men," "hard drinkers," and "drunkards." This distribution will, by those who have devoted close attention to inebriety, be recognised as most indefinite so far as the habitually temperate, careless, and free drinkers are concerned. There is a large proportion of drinkers who are abstemious to a degree in company, but who indulge to excess in secret, their habit of secret and solitary intoxication, or of less pronounced drinking, never being discovered except by accident.

All these and other qualifications must be borne in mind when considering the lessons to be learnt from this inquiry in which, it will be remembered, were included only males dying above

twenty-five. Only 2·8 per cent. were abstainers, about 42 per cent. were habitually moderate, 25 per cent. were careless, and 30 per cent. were more or less distinctly intemperate. If this state of matters be true, it is very serious that less than one-half of our drinkers should be "habitually moderate."

The average age at death was, of abstainers, 51·22 years; of the habitually temperate, 62·13 years; of careless drinkers, 59·67 years; of free drinkers, 57·59 years, and of the decidedly intemperate, 52·03 years. This shows a difference of ten years in favour of the habitually temperate, as compared with the decidedly intemperate.

The most remarkable feature of the table is the apparently shorter duration of life among the abstainers as compared with drinkers of all degrees. The length of life of the nephelists was about eleven years less than the average of the habitually temperate, eight years less than the average of the careless drinkers, about six years less than the average of the free drinkers, and about three-quarters of a year less than the average of the decidedly intemperate.

The explanation of this apparent greater shortness of life among the teetotalers is very simple. The general habit of drinking has come down from remote antiquity, while the abstinence movement is but some fifty years or so old. The great majority of our converts to teetotalism have been young persons, so that the AVERAGE AGE OF LIVING ABSTAINERS MUST FOR SOME TIME TO COME BE MUCH LESS THAN THE AVERAGE AGE OF DRINKERS OF ALL DEGREES. Such is the simple explanation of this latest "Mare's Nest of Bacchus."

This explanation is corroborated by two other tables constructed by Dr. Owen and his committee. When deaths UNDER 30 years of age were excluded, the AVERAGE AGE OF THE ABSTAINERS WAS ABOUT FOUR YEARS MORE THAN THAT OF THE DECIDEDLY INTEMPERATE. When all deaths under 40 years were excluded, the average age of the TEETOTALER WAS ONE YEAR

GREATER than that of the FREE DRINKERS, and more than FIVE YEARS GREATER than that of the INTEMPE- RATE.

A conclusive proof of the superior longevity of abstainers over drinkers who are not drunkards, is afforded by

the returns of the United Kingdom Temperance and General Provident Institution. The statistics are spread over twenty-two years, and embrace only the lives of abstainers and moderate drinkers, drunkards being excluded.

	TEMPERANCE SECTION.		GENERAL SECTION.	
	Expected Deaths.	Actual Deaths.	Expected Deaths.	Actual Deaths.
1866-70 (5 years) ...	549	411	1,008	944
1871-75 " ...	723	511	1,268	1,330
1876-80 " ...	933	651	1,485	1,480
1881-85 " ...	1,179	835	1,670	1,530
1886-87 (2 years) ...	553	390	713	700
22 years ...	3,937	2,798	6,144	5,984

These figures show only 71 per cent. mortality of the expectancy, a saving of twenty-nine lives in every hundred among the abstainers, while among the non-abstainers there was a mortality of 98 per cent., or a saving of but two lives in every hundred.

These tables, supported by similar returns from other insurance offices,* afford the best proof at present attainable of the comparative duration of life among abstainers and non-abstainers. Therefore, by the most practical and crucial test that can be applied, ABSTINENCE is demonstrated to be FAVOURABLE TO LONG LIFE.

Dr. Owen and the Investigation Committee have done their best with the imperfect material placed at their disposal. Their labours merited far different treatment from the gross misrepresentation to which their returns

and their report have been subjected. Taking the report as it stands, the following (among other statements) are plainly set forth in it:—That the returns reported on afford no means of coming to any conclusion, as to the relative duration of life of abstainers and habitually temperate drinkers. That habitual indulgence in alcoholic liquors BEYOND THE MOST MODERATE amounts has a distinct tendency to SHORTEN life, the average shortening being roughly proportional to the degree of indulgence. That in the production of cirrhosis and gout, alcoholic excess plays the very marked part which it has long been recognised as doing. That total ABSTINENCE and habitual temperance augment considerably the chance of death from OLD AGE OR NATURAL DECAY. So does true science ever witness to the superior healthfulness of abstinence. The more the effects of alcoholic intoxicants are enquired into, the stronger confirmation there will be of the truth of the foundation principle of the great temperance and prohibition movements, that intoxicating narcotics are dangerous articles, noxious to health and life, in all quantities which are followed by any appreciable effect.

* The Sceptre Life Association Records, 1884-8, give a mortality as regards the number of expected deaths of 79 per cent. in the General Section, and of 56 per cent. in the Temperance Section. In the Whit- ington Life Assurance Company, since 1844 the death-rate in the Ordinary Section was 16.35 per 1,000 per annum, and in the Temperance Section only about one-half, or 8.74 per 1,000.

THE TREATMENT OF FEMALE INEBRIETY IN THE CULTURED CLASSES.*

By MRS. L'OSTE, *The Oaks, Gipsy Hill, London.*

OUR esteemed President has encouraged me to risk writing a short paper on my experience of the treatment of Inebriates, to be laid before this Society. I feel I owe its members many apologies for troubling them with a woman's views and opinions. My only excuse for doing so is that I have been engaged in the study and cure of inebriety for more than twenty-six years, that my endeavours to help my fellow-creatures have often been crowned with success, and that I love and am proud of my work.

The early part of my experience was in a Home for ladies and gentlemen, which belonged to my parents, who were assisted by a resident medical man, my husband, and myself. We received sixteen patients, all of whom were sufferers from some form of inebriety, or nervous disease of the brain. The staff seems large in proportion to the number of patients, but all our energies were needed to cope successfully with the diseases, though some years ago I became convinced of the fact that our labour and anxiety would have been greatly lessened, and the percentage of cures considerably raised, had our Home been for ladies or gentlemen separately. We also then employed the ruinous system of gradually stopping the supply of stimulants, believing that by so doing we were lessening the chance of delirium tremens setting in, and modifying the suffering caused to the patient by sudden total abstinence, whereas we were simply prolonging the pain, fostering the craving for alcohol, and lengthening the time required to thoroughly purify the system from all traces of it, as I have long since proved unmistakably by the more satisfactory results obtained by discontinuing all stimulants immediately.

The former practice reminds me of

an American I know of, evidently not gifted with his countrymen's proverbial acuteness, who, when drowning his superfluous kittens, used always to take them out of the water to breathe at intervals, under the impression, I suppose, that each fresh immersion rendered the process of dying more comfortable!

In 1881, owing to the death of my relatives, I closed my house, and, after taking some little time for rest, went as Lady Superintendent to one of the licensed Homes for ladies, under the "Inebriates," or, as it was then called, the "Habitual Drunkards Act." During my short stay there I convinced myself that, although these Institutions may be productive of good among the lower classes, their result on an average among gentlewomen is unsatisfactory. The very fact of the mixture of classes, though there unavoidable, entailing constant enforced association with those of lower mental and moral standard, as well as the publicity of the establishment, tends to pull down their self-respect, the building up of which is one of our greatest difficulties, while it is decidedly the first step towards permanent recovery.

I am entirely of opinion that inebriety is a disease, often hereditary, the germs of which may sometimes be noticed even in children, frequently shown by their inordinate thirst, and their craving for hot condiments with their food, and highly spiced dishes. I have seen this in several instances in the children of ladies under my care. One little girl of ten I discovered to be in the habit of taking pepper out of the castors and eating it by the spoonful. This tendency, all who have studied the question must know, is a constant trait in the adult inebriate.

When the disease was not inherited, I have found that the majority of cases were caused by the nervous debility resulting from obstetrical disorders. Lately, several cases have been brought

* Read at the Annual Meeting of the Society for the Study of Inebriety, 2nd April, 1889.

to my notice, which have been brought about through the use of a French drug called *Eau des Carmes de Melisse*. It is often resorted to by girls and women as a pick-me-up, who would not take spirits. The analysis of this drug showed that it was pure spirits of wine—flavoured. Every one must see the frightful danger of being able to obtain such things at a general shop.

While under the influence of the disease the sufferers are not responsible for their actions, their whole natures and characters undergo a complete metamorphosis; the most high principled and scrupulously truthful will stoop to such depth of deceit and degradation as at other times they would shudder to think of. The craving for stimulants becomes so intense that they are incapable of resisting it when at liberty, and at this stage will hesitate at nothing, even sometimes risking their lives to obtain stimulants. The consequence of the continued indulgence in alcohol or drugs, is the gradual weakening of nerve power, both mental and physical, until at last the poison takes full effect and brings about, in some cases partial, and in others total, paralysis, besides many other grave diseases, such as diabetes, weakened heart, congested liver, &c.

In order to secure success Homes should be such, not only in name, but in reality: we ought to gain the love and confidence of those under our care, and try to teach them to look upon us as genuine friends and helpers, and our Homes as havens of rest and comfort in their affliction. In the treatment of patients we must bear in mind the following: a special study of each individual case is necessary; the origin of the disease should, if possible, be traced; each case should be treated on its own merits; and sufficient time should be allowed to elapse to restore in some measure the shattered nervous system, before trying to convince the patients that *much* depends on themselves as to the ultimate success of their sojourn in the Home. Rest, with healthy recreation for mind and body, must be provided, and a

liberal diet (at first), not allowing any length of time to elapse without giving strong home-made beef-tea, chicken broth, milk, or *oysters*. The refinements of home life should be retained, and discussion between the inmates on the subject of inebriety absolutely forbidden, as it tends to foster the disease. The next step is to try to convince the patients that they are suffering from what is perfectly curable if they give themselves up to our guidance, and co-operate with us.

I have often found that women who felt themselves hopelessly degraded, the moment they were told that they were suffering from a disease, plucked up their courage, and, with renewed self-respect, resolved to face all the necessary discomforts with hope and cheerfulness.

Once they are fully persuaded that *total* abstinence is a necessity for them, the victory is, in a great measure, won; but the chief difficulty is to divest them of the idea that after a short period of teetotalism they will have sufficient self-control and power to be able to be moderate drinkers. I may add that I have never known a single case where an inebriate could take any stimulant whatever without an eventual collapse. The relations between the proprietors and inmates of Homes should be such that the latter would not hesitate to return of their own free will in the event of a relapse, as in such cases, with few exceptions, my own patients have done. As a rule, I believe the number received in one house should not exceed five or six, as it is impossible to give individual attention to more.

There seems to be a general opinion among temperance workers and proprietors of Homes that a country Home is to be preferred to one near a large town. My own experience has convinced me that on the whole this is a mistake where ladies are concerned. My first Homes were in the country, and I had every means at my disposal, as regards horses, carriages, &c., and facilities for many lovely excursions; but I find that the average lady inebriate requires more

mental stimulus than can be afforded by the simple enjoyment of nature to prevent her from brooding, and this is easily provided if you have convenient access to good concerts, &c., and are not consequently obliged to confine your patients to such mental amusements as are to be obtained in the limited society of a country neighbourhood. You must not expect your patients to be able at first to make an effort, and a large city affords innumerable easy amusements for ladies.

Those who undertake this difficult, but intensely interesting work, should devote their *whole* time and energies to it, throwing themselves unselfishly and heartily into the cure, welfare, pleasures, and hobbies of the patients.

With regard to the length of time required for a complete cure it may be said to vary between six months and two years according to:—

1. The age, temperament, and physical health of the patients.

2. Whether the disease is hereditary.

3. The number of years during which the attacks of inebriety have continued.

4. The nature and amount of the stimulants taken.

It is rarely, however, that six months proves effectual. I am constantly being urged to receive patients for three months, but I always refuse to do so, as it is an utter fallacy to suppose that any lasting good can be done in that time.

Numbers of cases have been brought under my notice where attempts at cure have been made either by having nurses in the ladies' own houses or as travelling companions, or else by placing the invalids in the house of some clergyman or doctor, who knows little, if anything, of the work, and is not himself a teetotaler. Invariably these cases have turned out failures, as either by stratagem, bribes, or working on the sympathies of friends, the ladies have succeeded in obtaining the stimulants or drugs for which they crave.

Many people advocate the use of morphia (or other narcotics or sedatives) in cases where stimulants are sud-

denly stopped. My experience proves conclusively to my mind that, as a rule, when the effect of the drug has passed, the weakness, often engendered, renders the craving for stimulants greater. A sojourn in a genuine Institution for the cure of the disease where there is no possibility of either of these drugs being obtained, is, in my opinion, the only chance of permanent cure.

There is no doubt that great strides have of late years been made in the study of inebriety, taken from every point of view, but much still remains to be done. Notably, there is *great* need of free Homes under Government for the indigent, who are now treated as criminals.

With regard to the upper classes, I feel certain, that the percentage of cures will be largely increased, when people can be found, who, having a knowledge of and love for their work, will start Homes for a limited number, setting aside all thought of making them a financial success, and when all those who are interested in the cure of an inebriate will grasp the fact that the *first* remedy tried should be a sojourn in a genuine Home, instead of using Homes as a *last* resource, as is at present the custom.

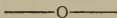
I have found the percentage of cures to be about thirty per cent. These were not, however, as is so often the case, mere temporary cures, but the patients were to my knowledge absolute teetotalers for years, and many of them are still known by me to be so. Others have, of course, been lost sight of as years went by; but I have every reason to hope that, after keeping well so long, they have not relapsed.

When our patients return to their own homes, our work, far from being ended, is in some measure increased, as it is essential to keep up a constant correspondence and intercourse (if possible) with them. Most of my old patients come and spend a few days or weeks with me from time to time. When the cured patients return to their own homes, the friends ought to allow no intoxicating drinks in the house.

It has often been asserted that women are much more difficult to cure than men, indeed I have heard a clever medical man say that it was impossible to ever permanently cure a woman. My experience with both sexes tends to prove that the average of cures is about equal; women are physically weaker, and require more strengthening and individual care than men, but they are certainly more easily managed in Homes, as more suitable employments and interests can be found for them, and once having taken the decisive step of leaving their own homes, they are more readily persuaded to stay a sufficiently long period to gain strength for the future. I should

like to add here, that I disapprove of the husbands and children being kept entirely away from the wives and mothers; after a certain interval I encourage visits occasionally, provided the relatives have been proved trustworthy.

When I commenced this paper, I intended giving a few outlines of interesting cases which have come under my own notice, but I am sure I have written enough, in fact more than enough, as I am taking up the valuable time of those who, in many cases, are more competent than myself to write and speak on these matters, much as I have the love of my work at heart.



LONDON TEMPERANCE HOSPITAL.

THE sixteenth annual meeting of the London Temperance Hospital was held on the premises in the Hampstead Road, on Thursday evening, 23rd May. The report of the Board of Management and of the Medical Officers was adopted at a special meeting of Governors held prior to the more public proceedings, over which, at a later hour, the Hon. and Rev. Canon Leigh for a short time presided. There was a large and influential attendance. The practice of holding the annual meeting at the hospital itself is a good one, for it enables visitors to inspect the establishment and its arrangements. When this is done they cannot fail to be other than impressed by what they see, and, moreover, a good deal more point is given, particularly to the views of the medical officers, who in this way are able to speak to a body of ladies and gentlemen who have actually seen the institution about which they are talking.

The CHAIRMAN, who was most warmly welcomed, said that one of the effects of this hospital had been the general reduction of the consumption of alcohol in such institutions generally. At one time any amount of stout, porter, and port wine, used to be

consumed in hospitals, workhouses, and public institutions. For seventeen or eighteen years in a Midland county he was connected with the administration of the Poor Law. He was chairman of the Warwick Board of Guardians for five or six years, and he remembered when they used to have bottles put in rows on the Board table, and the Guardians were expected to test the quality of these various liquors. All the time he was chairman he did his best to reduce the amount, and advised that when the club doctor prescribed wine or spirits as medicine it should be paid for by him. He could not remember during all the time he had been in London any doctor who had sent him an order to provide wine, or anything of the kind for the poor. He presumed it was because his views on this subject were pretty well-known and the doctor knew it would be useless to do so. In this hospital they had a magnificent building which would be a lasting memorial to the present generation of temperance workers. This experiment had now been tried for fifteen and a half years and had proved to be a thorough success, and if anyone said it was necessary to have alcohol under

certain conditions of typhoid fever, or in surgical cases, they had only to reply, Go to the hospital in the Hampstead Road and ask how much alcohol they have used in the last fifteen and a half years in the most serious cases, and then ask what has been the percentage of deaths from these cases in that hospital in comparison with the corresponding mortality in other hospitals. If they came they would get a satisfactory answer, and they would, if patients, go away better and wiser than when they first entered the portals of this hospital. In conclusion, he begged his hearers to study the report, copies of which had been circulated in the room, for there was much in it which would be both interesting and instructive. The Canon then left the meeting, having to fulfil another engagement, but his place was taken with much acceptance by that old and ever ready friend of the cause—the Hon. Conrad Dillon.

The SECRETARY then read the annual report, which showed that the admissions up to the end of 1888 were 5,390; 2,074 were relieved, 2,854 were cured, 333 died, and 129 were unrelieved. The receipts for last year were £5,595 11s. 6d., the expenditure was £5,516 9s. 8d, and the balance in hand was £79 1s. 10d.

Mr. THOMAS CASH, Chairman of the Board of Management, moved the first resolution, as follows:—

“That this meeting, recognising the high position occupied by the London Temperance Hospital, as a department of temperance evidence and operation, commends it to the earnest and liberal support of all the friends of sobriety and benevolence, not only in the United Kingdom, but throughout the world.”

He opened with the pertinent remark, “We cannot get on without money;” and went on to say that during the last year the hospital had received the largest income of any year in its history; but, on the other hand, unfortunately the expenses were greater, and more than neutralised the increased income. That was principally accounted for by the fact that they had to spend something like

£280 in absolutely necessary repairs. He wished to give Miss Orme, the matron, and the staff the credit of keeping the house expenses down as much as possible, although there were more patients. There was a dark side to the picture, which it was right he should reveal. Their late generous friend George Sturge gave them £1,000 a year for five years, and that had helped them to go along without making any very urgent appeal to their friends, and by careful management to put aside year by year a certain sum to a reserve fund. The term of five years had now expired, and the hospital had received the full benefit of his kindness and generosity, and its friends revered his memory. Still, the income was short this year by £1,000. Ever since they had been here they had had Mr. Sturge’s pecuniary support, and the sums put down to his name by no means represented all he gave. The Board wanted to make that up in some way. They did not want to curtail the work, but to increase it, and all the means except the money were at hand for doing so. It was somewhat discreditable to them that they should have a hospital with 120 beds, but that never at any one time should they have exceeded the maximum of seventy-seven, and at the present time the numbers were fewer than that. He believed that if this were made known to their friends the means would be forthcoming. When the patients did come, they knew they were treated with the greatest attention and care. The doctors, the house-surgeons, and all the nurses, did their utmost, and not only did the Board see this, but they heard it from the patients themselves, whose testimonies in favour of the institution were many. Not only did they hear statements highly complimentary to the doctors, but also to the ladies who were nurses under Miss Orme. These ladies were devoting the best part of their lives to the service of their fellow-creatures in this way, and a better method of doing work for God and man he could not imagine.

Dr. JAMES EDMUNDS, senior physician to the hospital, who was heartily received, said: I have much confidence in supporting the recommendations made in this resolution. The Temperance Hospital compares favourably with any hospital yet erected—both as to the efficiency of its structure, and as to the economy with which it can be worked. This hospital has the largest number of beds working with comfort to the patients and ease to the employés, that could have been built for the money entrusted to the Board of Management. In regard to its nursing, we are favoured with the co-operation of a band of devoted ladies, who are most skilful nurses, and who serve the hospital without any tincture of religious sectarianism. In response to the compliments which have been paid to the medical staff, we regard our work here as a labour of love, and we are proud to help forward the scientific objects of this hospital, and to demonstrate the advantages of treatment apart from the use of alcohol. The welfare of the sick patient is, however, the one object to which all others must be rigidly subordinated. The toll which the hospital work should pay to the general advancement of medical science, the training of our nurses, the clinical instruction of medical students, are all important objects, but they must all be subordinated rigidly to the one ideal, *i.e.*, that no patient who comes under the roof of this hospital shall be subjected to any treatment which the physician or surgeon, if himself the patient, would not wish himself to be subjected to. So long as that ideal is maintained by your medical staff, and so long as we confer carefully together before taking serious action in cases of special difficulty or danger, we shall have done our best and we must be content. Canon Leigh has used the word vivisection, I, therefore, say emphatically that we intend to have no mere experimental vivisection upon the patients who enter this hospital. So far as our patients are concerned, I am thankful to say that I have never met with anything but the most grateful recognition of what has been done for them.

Of course we cannot always please everybody. Upon the physicians and surgeons lies the duty of deciding as to the various claims for admission, as to the time of the patients' stay in the hospital, and as to other matters which often necessitate the non-admission of patients who are very anxious to be admitted, or the dismissal of patients who are very reluctant to leave. But we cannot unduly retain patients, nor can we admit cases whose presence would be injurious to a whole wardful of other poor sick people. We cannot allow the hospital to be made a lodging house for chronic inebriates, nor a receptacle for paupers who must be provided for in the poor-law infirmaries. Nor can the beds be usefully occupied with poor people who are actually dying of cancer or consumption. By the rules of the hospital all such cases are ineligible, and it is our duty to administer those rules without fear, favour, or affection. Nevertheless, it often gives us much pain to have to disappoint some poor patient, or some benevolent governor, who, not realising these rules, has unwittingly given such patient a letter of recommendation. What we have to do is to so dispose of the beds as to do the largest amount of curative work among the poor sick people who apply for admission, and to so administer the funds as to give the greatest benefits to the greatest number. As to the general results of treatment without alcohol, I am perfectly satisfied with those results, and the patients also are perfectly satisfied. But we have difficulties to face which often require very delicate dealing. Watching our work are a large number of eminent medical men who take wine themselves, who like their wine, who have committed themselves, by many years of public teaching and by many years of prescribing, to the advocacy of alcohol, and these men do not like to be beaten. Of course all these gentlemen are always "open to conviction," but it is very difficult to convince them, and meanwhile, they will not be beaten if they can help it. But the ground is slipping from under them.

They see the records of our cases accumulating, and they find them practically unassailable. But, if we make any mistakes, those mistakes would be commented upon in the spirit of very candid friends. Under these circumstances we have to steer our way cautiously. During the sixteen years that I have now been at work in this hospital I have never once prescribed alcohol in any form or for any purpose, and, though, theoretically, we must reserve for ourselves the use of alcohol if we think it necessary, yet I myself avoid the prescription of alcohol, simply because I believe that it does more harm than good, and that the evils which arise to the community from its use are intolerable. I believe that the patients do better without alcohol than with it. But under these circumstances we cannot expect our work to be responded to very cordially by eminent men in the profession, who have committed themselves to such confident advocacy of the other side of the question. But we mean to fight this question out, and we know that ultimately we shall get justice done in this question by the medical profession. Meanwhile, the results which we are accumulating are telling upon medical practice all over the world, and there will come a time when the way in which alcohol has been prescribed by the medical profession will be viewed as one of the most serious blunders it ever made. Now, it is a melancholy thing that we should have this beautiful hospital of 120 beds with several wards lying idle, simply for want of the funds necessary to work those wards. Additional patients would cost little more than their mere maintenance — perhaps 10s. 6d. per week — inasmuch as we have the building complete, the empty wards all furnished, and everything as ready for work as those wards in which you see the patients now lying so comfortably provided for in their attacks of illness or accident. We have, therefore, a very strong case to put before the benevolent public, inasmuch as we could expend further subscriptions with great advantage. Every temperance society, every lodge of

Good Templars, Sons of Temperance, of the Phoenix, and other societies, ought to make itself a subscriber of two guineas a year, and they could in no other way get such returns for their money. When I tell you that each annual subscription of two guineas now gives letters for two indoor patients and six out-door patients, each letter good for eight weeks, you will see that for the two guineas you distribute sixteen weeks' maintenance and medical treatment in the beds of the hospital, and forty-eight weeks' treatment and medicine in the out-door department. Now, that costs ten times the amount of the subscriptions! You will ask, How can this be? Well, it comes about in this way. Large donations and legacies come to the hospital for which the corresponding letters are not distributed by the donors, and, therefore, the living and working governors become, as it were, trustees for the distribution not only of their own money but of moneys otherwise accruing. If these facts were more generally realised, it could not be long before the whole of the 120 beds were in active and continuous work. Our simple aim here is that of treating the sick poor upon classical lines of medical treatment, but minus the use of alcohol. That object is perfectly scientific in its character as well as truly philanthropic in its motives.

Dr. RIDGE, of the medical staff, said: This institution ought to be recognised by every total abstainer as one which it is his bounden duty to support and carry forward to perfection. I do not think some of our friends realise the great importance of the movement that is concentrated here. I am constantly hearing of people in different parts of the country who are what is called "falling into the hands of the doctors," and who are being almost driven by the dicta of these medical men into taking alcoholic liquors. The idea that these things are necessary is by no means dead. We have to persuade people that if they want to get well they must be total abstainers when they are ill, as also when they are well.

I want teetotalers to regard this not as a temperance hospital, but as a temperance home. This hospital has now been established fifteen years. At the outset we regarded it as an experiment: it is now proved to be a triumphant success. There are strong indications and also scientific proof that alcohol instead of being a benefit is an injury in disease as also in health. I refer to those experiments which have been made within the last three or four years by some of our friends—not vivisection experiments, but under the microscope, by which it has been seen that in some cases there is a sort of stand-up fight between certain cells of the body and those germs of disease which enter into the body. It has been seen that there is a struggle going on, and that if the body cells can destroy the bacteria health is restored, and *vice versa* in the other alternative. Now, alcohol hinders these body cells from thoroughly performing their work. They are more sluggish and less able to cope with the germs of disease, and thus we have the explanation that fevers can be better treated without alcohol than with it. There are very few cases of disease in which medical men will now tell you that alcohol is necessary. The experience of this hospital makes it more and more evident that alcohol does not assist the body to resist the inroads of disease, and that it is better able to get rid of the poison elements without it than with it. We also find people come here who are fighting against the drink craving, and who want to be set free from the consequences of alcohol. It is a great thing for them to know that there is such a home of refuge for them here, and that there are friends who so sympathise with them that they have established this hospital to which they can have resort. If the full measure of work is to be done, the hospital must be efficiently supported. Do not let us be cramped in our endeavours. I feel sure there is a distinct necessity for this institution.

The CHAIRMAN, in complimentary terms, introduced Dr. Collins to the meeting, explaining that he had taken the post vacated by Mr. Pearce Gould.

Dr. COLLINS: I was present at the last annual meeting merely as an outsider and a well-wisher, and was elected to the position I at present occupy in July, 1888. It would be unbecoming on my part to recapitulate in detail any of the cases treated here during the last year, but the registrar has supplied me with a few facts. During the year ending December 31st, 1888, there were 296 surgical in-patients, 65 cases of injury, and 231 of surgical diseases. The operations during the year were 91, and among these there were 4 deaths. The total deaths were 11 in the surgical cases, giving a mortality of only 3·94 per cent., whereas the average mortality is usually about 5·7 per cent. Through the generosity of a member of the Board we were in August last able to open a special department for eye diseases. Forty-five patients have attended the department, of whom 19 became in-patients. Among these there were eight operations, five of them being for cataract, all of which were successful. I desire to say, with a tolerably intimate experience of nursing in some four or five other institutions, that the nursing which obtains in this hospital is surpassed by none, and is approached by very few. That is not an idle compliment, but I pay it in all seriousness and earnestness. With regard to the question of more beds being occupied, it is an anxious matter for the members of the medical staff. We should be glad to establish a children's ward. I see that in other developments of temperance work the children are being looked after, and they should be looked after also in this development of it. Moreover, cases of child treatment offer the widest possible scope and the best possible results. Of 2,873 of your patients only 610 were under fifteen years of age; consequently you do not get the full benefit upon your statistics of the large number of children who show a low mortality and a successful condition as regards treatment. I think the establishment of a children's ward would be eminently satisfactory. I will say a few words only upon instruction. It has been the habit to

instruct the nurses by lectures given at other institutions; but last year your indefatigable matron suggested it would be possible for us to teach our nurses at home, and requested Dr. Lee (whose loss to the hospital his medical colleagues deeply regret) and myself if we could undertake classes for the nurses here. Those classes were established, and, if they have been only half as instructive to those who listened as they have been interesting to us, the time has not been thrown away. With regard to the instruction of medical students, there are now eleven what are called "teaching hospitals" in London, and why should not this make the twelfth. Many medical men have attended, and some have proceeded to their examinations from this institution. If we continue to collate the results of our treatment with absolute impartiality and scrupulous care we shall be able to press upon a possibly not too willing ear facts which will be somewhat astonishing.

Dr. W. PEARCE, of St. Mary's Hospital, moved the next resolution:

"That in cordially thanking the Board of Management and the Medical and Nursing Staffs for the work of the past year, this meeting expresses its hope that the accommodation offered by the hospital may be fully made use of, in order that its special object in the treatment of disease without the ordinary use of alcohol may be more largely attained, and the benefits resulting therefrom more widely diffused."

He expressed his great admiration for the nursing system of this hospital. He often had applications from ladies who wished to become nurses, and always recommended them to come here. Some of the best trained nurses he had known had received their training here. General accusations had been made against alcohol, and every year the number of diseases which could be debited to the excess in its use was being increased until it was now becoming a long list. Alcoholic paralysis in particular had attracted much attention. It resembled in its symptoms lead poisoning which had

been known for a great many years. He had a shrewd suspicion that what had been long known as lead paralysis was in many cases, if not solely, caused by alcohol. It was a strange coincidence that where for years lead paralysis had been attributed to certain drinks those drinks have invariably contained a large quantity of lead and alcohol. It was said that the man who took the early drop in the morning got lead paralysis because he took in lead with his beer from the machine pump. Another instance was Devonshire colic, which people were supposed to contract by drinking. Then there was the colic due to the lead contained in certain wine made in France. This was another instance where a paralysis had been attributed largely to lead, but which he believed was really due to alcohol. There was also a suspicion that a great deal of the paralysis attributed to consumption, if not directly caused, was very much accelerated, by the taking of alcohol, and the men who suffered most from this kind of paralysis were publicans. He was sure that all pathological investigation would go to establish the accusation that the alcohol, which had been called "the devil in solution," also merited the other name given it of the "genius of degeneration." The position of most of the members of the profession was that alcohol was a poison, that in its administration in disease it should be used with extreme caution, and that it should be simply given as a medicine. As regards its dietetic administration—scarcely anybody would insist upon it. The good it did and the evil it prevented did not seem to come to light, and although the evidence against alcohol was increasing every day, they never heard of cases where good had been produced or evil had been prevented by it. As he had said, they never seemed to come to light.

Mr. J. H. RAPER seconded the motion, and pointed out that the example set in this institution was being followed both in Melbourne and Chicago.

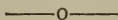
The resolution, like the one that preceded it, was carried unanimously.

Dr. DAWSON BURNS proposed a

vote of thanks to those who had the immediate management of the institution, and to this Miss Orme gracefully replied.

A vote of thanks to the chairman

was proposed by the Rev. J. Ramsay, seconded by Mr. Eskholme, and it was spoken to by Mr. John Hutton. With this, the proceedings were brought to a close.



ALCOHOL A MOCKER WHEN USED AS A MEDICINE.

By H. S. TANNER, M.D., *United States.*

THE medical profession can be appropriately divided into four distinct classes, and by describing, in a general way, the status of each, I can best make good my claim that the profession at large is in a transition from darkness into light. The first, or the conservative class, includes all who still adhere to the old, moss-grown doctrine, that distilled and fermented liquors are conservators of strength in weakness and are indispensable as medicines in all wasting diseases. Their name is "Legion."

The second class, fully as numerous as the first, are less conservative. Having for years been in the habit of prescribing alcohol in some of its forms, they have given it as their matured opinion that it is doubtful whether the diseases it has entailed are not as numerous as those it has cured, and therefore hesitate whether to hail its introduction as a medicine as a blessing or a curse.

The third class, whose experience with the article has been anything but satisfactory, have come to regard alcohol as a "mockery" when used as a medicine as well as a beverage, and therefore do not hesitate to express their doubts as to the propriety of its use, unless in extreme cases. The fourth class, still higher in the ranks, have left no ambiguity in the expression of their conclusions that it is not only useless as a medicine, but positively pernicious under all circumstances.

The latter class are rapidly on the increase, and will, ere many decades of years roll by, exert a controlling influence which will sign the death-warrant of alcohol as a medicine as well as a beverage.

The transition of the medical profession will be fast or slow, just in the ratio of the growth of public sentiment on the temperance question. If public sentiment moves at a funeral pace, then the transition of the profession will be correspondingly slow; if it moves on "the double quick" then the medical men will put on seven-league boots if necessary, to keep stride with the onward march of the grand army of progress.

Taking this view of the situation, and having long since discarded alcohol as a medicine, I take up my pen that I may, through the columns of the *Union Signal*, give my reasons for the faith that is in me, hoping thereby to perform a humble part toward creating that enlightened public sentiment that shall in time banish the hydra-headed monster from the sick-room, and eventually from every place where it has so long held sway.

The conservative medical schools, through their representative men, boldly and unblushingly proclaim through the Press that the "judicious use of alcoholic stimulants is one of the striking characteristics of progress in the practice of medicine during the last half century;" and as a sequence the graduates from these schools pass into the community to foster the idea that distilled and fermented liquors are absolutely essential for the preservation of health and the cure of disease. Now, against this whole system of teaching and practice I am at war, because non-alcoholic hospital practice demonstrates it to be a system of fundamentally fallacious principles, impotent of good, morally wrong, and bodily hurtful. If there is one truth that has been conclusively demon-

strated, it is that the striking characteristic of progress in medicine during the last half-century is the gradual breaking loose from this Samson of the *materia medica*, and the adoption of the non-alcoholic régime.

The wonderful results of the non-alcoholic practice in the London Temperance Hospital, the Royal Infirmary of Manchester, the experiments of Professor Gairdner in the hospitals of Edinburgh and Glasgow, proclaim in loud tones that there is no argument against the prohibition of the use of alcohol in the sick-room and nursery that is even plausible. To boldly proclaim that the conservative class of physicians (with Professors Austin Flint and Mott as their representatives) is the foundation upon which the liquor traffic, with all its appalling results, is built, and that their teachings and practices, and allowing their names to be paraded by liquor dealers in newspaper "ads," as a means of enriching themselves at the expense of the masses who are constantly by this means being deluded into the belief that liquors are the panacea for all the ills flesh is heir to, is to lay myself open to the charge of being opinionated and egotistical; but this will not move me, for well I know that the opinion of the conservatives at large on this subject are but the opinions of Flint and Mott multiplied, and that the opinions of these two men are no more liable to be right than the opinion of any one man among the whole number.

A few years ago nine hundred and ninety-nine out of every thousand physicians in this country and Europe dogmatically asserted that a forty days' total abstinence from food was a physical impossibility. Yet in spite of this general opinion I went to

Gotham, and, under the strict surveillance of sixty of the best physicians of the metropolis, demonstrated to the satisfaction of all (including ex-Surgeon General Hammond) that the profession at large was in error, and must begin to study the laws of life and health anew.

I claim that one of the important lessons taught by my fast is, that conservative doctors have very greatly over-estimated the value of alcohol as a food and as a medicine. They claim that alcohol is indispensable in all diseases of a wasting character. What disease can be more wasting than totally abstaining from food for forty days? Yet I passed through the ordeal without the aid of this so-called indispensable, proof that the assumptions of alcoholic doctors have no solid foundation on which to exist.

Had I taken intoxicants during my fast I should have failed long before the forty days had expired. I affirm positively and emphatically, that I could not have been sustained one-fifth of the forty days had I indulged in intoxicating drinks, or had I previously to my experiment been in the habit of using alcohol or tobacco.

During my two fasts (each of forty days) I had ample opportunities to study the physiological effects of water on the human organism. Daily I had opportunity to realise its wonderful power to sustain the normal temperature, and to nourish and sustain the system in the absence of solid food. From the unrelenting logic of facts that came under my observation during my fasts, I am prepared to state, unequivocally, that alcohol is a "mockery" when prescribed as a restorer and sustained of strength in weakness, as well as when used as a beverage.

A MEDICAL VIEW OF ALCOHOL.*

WE must all admit the power of

* From an address recently delivered at a drawing-room meeting by Dr. J. W. Boyce, of Blackrock, near Dublin.

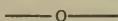
alcohol; there can be no difference of opinion whatever as to its power for evil. We know that our goals, our lunatic asylums, and workhouses, are full from the use of alcohol. I suppose

you know that in the term alcohol is included every kind of intoxicating drink. All kinds of wines and malt liquors are the same as to their intoxicating property; that invariably depends on the alcohol they contain. There was an old proverb, "Let everything be in its place," and so with alcohol. The world would be better without it. Now where in the order of things should we place alcohol? Should we consider it as a poison, as a medicine, or an article of food, or a luxury? I do not ask the question how it is generally regarded by people; that may be easily answered, though somewhat unsatisfactorily. Many men regard it as an article of food; a few regard it as a luxury, and use it but occasionally; few as a medicine; but very few regard it as a poison. Alcohol is a poison in chemistry as well as in physiology. Some of my hearers may be inclined to receive such an assertion coming from me as incredible. It could not be a poison, they say. (Dr. Boyce quoted Christison as an authority in support of his assertion, and explained how, when a man takes a quantity of whisky, it goes through the body to the brain, and how it affects the brain and paralyses the senses, and in some cases produced madness, or that terrible disease called *delirium tremens*.) Some of you may say I am now speaking of people who take a very large quantity of it. Well, now, is alcohol a food? This is a fundamental error. Food, properly so called, is that which enters the stomach, and is properly brought into the body, nourishing it and helping to maintain the animal heat or temperature, without which none of us can live. (After describing how the food nourishes the body, he asked)—Can alcohol be taken either as a food or a solvent for food? Not the latter certainly. In the laboratory of the chemist alcohol is a most valuable solvent; it makes many a good tincture; but not so in the stomach of man where it tends to harden and coagulate. It is through the water contained in our bodies that the food is dissolved, and probably some of you will be surprised how much we are

made up with water. The muscles of our bodies contain between 70 and 80 per cent., and our brain contains 80 per cent. of water. It is the only liquid that is capable of dissolving the particles of food that are taken into the stomach. Well, if alcohol is not a solvent for food, is it a food itself? No. It has no chemical constituents to enable it to be one. It would take too much time to explain. It merely circulates in the blood until it is expelled. Can it keep up the heat of the body? It cannot. People who are friendly to alcohol say they are warmer. No doubt a warmer feeling is felt, but it is only fallacious. It is thus—there is a nervous supply presides over the blood-vessels, and keeps them at their proper size. Alcohol has a power of paralysing that nervous supply, and the vessels consequently dilate after alcohol is taken. The blood rushes to the surface, and makes it warmer for the time being, but at the expense of the internal heat which is in the internal organs. The temperature, a short time after a dose of alcohol is taken, is lower than before it. This fact is so well known now, that I have been informed that in the London police stations thermometers are kept to help in distinguishing between insensibility from drink and such diseases as apoplexy. Our opponents plume themselves very much upon the fact that the working man takes less food with alcohol than without it. That it is an equivalent for food not taken, which would otherwise be consumed. Thus, they say, alcohol would be useful to the poor man. Well, alcohol may cause less anxiety for food, and the want is less felt, but it is not a useful food. It causes a less craving for food, and the portion not taken is simply lost by taking alcohol. The question is whether we should take alcohol and less food and be imperfectly nourished, or take less alcohol and more food and be better nourished. If luxuries are required I believe that it will be better wisdom to take the "cup that cheers but not inebriates." I should also say that tea and coffee should be taken in moderation. Cocoa, which contains

some starch and a considerable proportion of fat, is better even than tea or coffee. Has alcohol, then, any real power in regard to bodily labour? Yes it has, but very much less than is generally supposed. It may be used for emergency, but not for daily labour. If a willing horse has a daily round of work to do, what fits him for it is not the whip and spur, but food and rest; but if, at any time a special effort is to be made and the ordinary means are insufficient, then whip and spur may be used. So, as a man spurs a horse, he may spur himself to the thing in hand with alcohol. Alcohol is but a spur for the spurt, and I think that distinction is very important between nourishment and stimulation. As I heard a gentleman say, if you sat down on a wasp's nest that would be stimulating, but not nourishment. The water drinker does his work as well at least as the other for a short time, and in long-continued labour beats him. It does not fill a man with a temporary energy at the expense of future exhaustion. Is alcohol a luxury? Yes, I think it is considered by many people a luxury. But even when it is taken in moderation, who can tell how soon the restraint which

hinders them may snap in twain; it twines itself round you like a slave for a time, till, feeling itself secure, it suddenly rebels and lays you low—no torture to mind or body that it will not bring you to. No man or woman is safe. Nobody ever said: "I intend to be a drunkard," the first time he took it. Nobody ever said, "I will go on till I kill myself, or make everybody around me miserable." Would it not be better for us all to follow the example of the best and the manliest of men, and say that "all things are lawful, but not expedient"? Why do you trifle with this drug? Drunkenness is the scourge of our land, and to me it seems that one of the causes is the false dietetic and domestic place of alcohol. Put it back from whence it came, into the laboratory and medicine chest, and you will do a good deal for the cause of temperance. Let me ask those present to act upon this principle, and they will never have cause to regret it. Let us, as honest men and women, try and learn its power, and then surely we will feel forced to abstain from what is more than the appearance of evil, and from that which is to those in health but at least a doubtful luxury.



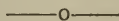
TREATMENT OF INEBREITY.

THE Dalrymple Home, which was established as an experiment in the scientific treatment of inebriety, has now been open for fully five years. With the year just ended, 152 patients in all have been discharged. Of these, 69 entered under the Inebriates Acts, and 83 as private patients. An encouraging feature has been the surrender of their liberty for the full period of twelve months by no fewer than 46 of the 152; while 7 remained nine months, 3 eight months, and 40 six months. The average age on admission was 35·4 years. Nearly one-half of the entire number of inmates were between 30 and 40 years of age, thirty-seven between 20 and 30, thirty-four between 40 and 50, and

eight between 50 and 60. Fully one-third, or 55, hailed from London, and 67 from the provinces. Ireland contributed 11, Scotland 8 patients, and France 3. One each came from Switzerland, Cape Colony, Australia, New Zealand, the United States, Canada, South America, and India. As regards faith, 147 were of the Protestant and 5 of the Roman Catholic persuasion. The preponderance of educated gentlemen was striking. Four had only an elementary education, 23 a fairly good one, 87 good, and 38 had been at college. Marital relations: 70 had been married, 72 were single, and 10 widowers. The learned occupations were largely represented, medicine taking the lead

with 14 medical men or students. There were 6 lawyers, 4 clergymen, and 5 tutors; 39 were gentlemen of independent fortune, 19 clerks, 12 merchants, 4 manufacturers, 9 civil servants, 8 retired military officers, 4 farmers, 1 publisher, 2 stockbrokers, and 1 librarian. There was a family history of insanity in 12 cases and of inebriety in 61 cases. The nervous temperament was strikingly in the ascendant, 91 having been classed as nervous, nervo-sanguine or passionate. There was an associated habit of tobacco with 136, chloral with 2, and opium, chlorodyne, or morphine with 7. The drinking habit was continuous with 92 and periodical with 60. As to frequency of periods, 5 had an outbreak every week, 3 every fortnight, 5 three weeks, 8 every month, 6 every six weeks, 11 every two months, and 10 every three months; 12 were very irregular in their periods, 29 had had one attack of delirium tremens, 9 two

attacks, 5 three, and 1 five. The ordinary habit was social with 135 and solitary with 17. Whisky was the most general spirit used, but 12 got drunk on wine or beer. The exciting cause was sociability with 55, nerve-shock with 33, idleness with 17, special influence of occupation with 17, overwork with 5, ill-health with 10, and accident with 7. The chief complicatory diseases were chest affections, rheumatism, gout, and syphilis. Of the 152, nine cases were discharged as not amenable to treatment. The average length of residence was seven months. The after-history of the patients has been extremely satisfactory, seventy-two doing well and six being improved. The profits made are expended on the Home, and during the past year an efficient heating apparatus has been installed over the whole building. — *British Medical Journal*.



ALCOHOLISM IN FRANCE.

OWING to the great increase of alcoholism in this country, the authorities are becoming alive to the importance of employing all the means in their power to put down this degrading vice. The legislative bodies have taken up the subject, and the Senate has ordered a commission to investigate the matter. A report has been drawn up by the committee, and M. Léon Say, the reporter, after having extolled the establishment of temperance societies in England and the United States, stated that the abuse of alcohol is not the only cause of the development of alcoholism, which is also due to the bad quality of the alcoholic drinks in vogue. These are made with the commercial alcohols and artificial bouquets which, since the invasion of the vine by the phylloxera, have been substituted for the alcohols of wine. The commercial alcohols are extracted from almost any substance that is capable of undergoing the vinous fermentation, and the wines

now sold are largely manufactured with these alcohols, and tinted with colouring matters to imitate the genuine varieties. The change in the nature of the product consumed has coincided with the appearance of new morbid symptoms. These alcohols are known to be extremely deleterious, and to their use is attributed the great increase of crime and insanity. The baneful influence of spirit drinking, however, is not confined to the actual consumers, but is recognised in their children in a variety of ways, even extending to the second and third generation. Thus we find that the children of drunkards are subject to nervous and other diseases, in the form of epilepsy, hysteria, and other degenerative processes which take place in the organism. To remedy the existing state of things, the commission proposed the following measures:—(1) A diminution of the number of wine-shops, and the augmentation, by means of a tax, of the

price of alcohols; (2) the abolition of private distillation and the prohibition of the sale of all spirituous liquors which are known to be dangerous to health; and (3) that all alcoholic products should pass through establishments duly authorised for the purpose of purification.

In connection with this subject, I may here refer to a thesis lately submitted by Dr. F. Combemale to the Faculty of Montpellier for the doctorate. It is entitled "*La Descendance des Alcooliques*," and is divided into three parts. In the first the author studies heredity — "This biological law which, in concert with adaptation, under the guise of transformation, explains the greatest number of physical or psychical facts, physiological or pathological, which one meets in the study of the generation of individuals, of families, of races, and of species." He then sketches the physiological and pathological effects of alcoholism on the individual and on the race. "Alcoholism," he says, "whether it be acute or chronic, exercises on the organism effects manifesting themselves symptomatologically by the diminution of vitality, premature ageing of the organs, ending anatomically in premature organic decay by steatosis of the parenchyma or by irritative processes of the serous membranes." But, says the author, its effects do not stop here; heredity transmits temporary or durable characters which a person acquires by abusing, accidentally, or habitually,

alcoholic drinks. The descendants of inebriates will acquire from their parents, if they are procreated or conceived during a state of intoxication, nervous or psychical troubles; and, if they are pro-created or conceived during a state of chronic alcoholisation, physical or mental alterations in relation with the organic degree of this alcoholisation. As to the mechanism of the action of alcoholism, this, according to the author, is explained by the lesions or morbid modifications which the generative organs undergo in all the stages of alcoholism, the greatest effect of maternal alcoholism involving the most intimate connections which bind the product to the mother. The effects of alcoholism on progeniture are treated of in the second part of Dr. Combemale's thesis. Alcoholism of parents, he says, might act on the body and on the health of the descendants in producing deformities, in modifying the exterior characters of the individual, in diminishing his degree of resistance to disease, in producing sterility. It may also and principally act on the intellectual state of descendants, either in producing constitutional states, idiocy, anomalies of the faculties of the mind (will, passion, intelligence), or in producing functional states (mental alienation, delirium, &c.). Dr. Combemale concludes his thesis by a study of the descendants of alcoholic subjects from a medico-legal point of view.—*Lancet*, Jan. 12th.

Notes and Extracts.

POOR-LAW MEDICAL MEN AND STIMULANTS.—Our view that alcohol should only be prescribed by medical men under a great sense of responsibility is now well known. But we entirely disapprove of guardians dictating to their medical officers in what cases they shall prescribe it. They might as well go further, and say in what cases opium shall be allowed.

We are glad to see that in the Board of guardians of Madeley the moderate section prevailed, and passed the following amendment on a resolution restricting the employment of alcohol to "exceptional and extreme cases": "That this Board thank the medical officers for their opinions as to the use of spirits as medical extras, and are pleased to learn that they only pre-

scribe such use in urgent and extreme cases, and no doubt they will continue to do the same." Mr. Machin seconded the amendment, which was carried by a majority of one.—*Lancet*, June 15.

ALCOHOL AND INSANITY.—There is no aspect of alcoholism more deplorable than as a factor of insanity. The Superintendent of the Insane Asylum at Stockton, California, Dr. W. H. May, says: "All my observations go to strengthen the belief that there is no greater mind-destroyer than intemperance." He is of opinion that it is in the second generation that the evil works its worst results. He adds: "One-half the insane—perhaps more—owe their derangement to hereditary influence, inheriting an ancestral taint or predisposition. But this hereditary taint—how had it its origin? Where the family history can be searched into, the starting-point will often be found in a drunken progenitor." He declares that "the families of intemperate parents are recruiting-ground for insane asylums." One of the strongest arguments for total abstinence, which should be thoughtfully considered, especially by all who assume the responsibility of parentage, is this tendency to hand down to offspring the alcoholic appetite, or special brain or other physical weaknesses, as a result of alcoholic indulgence.

THE TRAINING OF INEBRIATES BY GOVERNMENT.—The records of our police-court procedure, with the enormous mass of frequent offenders or "repeaters" charged with drunkenness or offences connected therewith, are a striking exemplification of "How not to do it." The remarkable figures published by Dr. J. Francis Sutherland relative to Glasgow are in themselves a lay sermon of ominous significance. We learn that there are some 10,000 commitments of females in that city during the year. Each of these women is, on an average, convicted three times, and the mean period of imprisonment is seven days, about half of the corresponding term in London. About 40 per cent. of these Scottish gaol birds have had from 11 to 800 previous convictions recorded against them. What does this mean? Simply

that, so far from cure or reformation, or even deterrence, these short sentences really just suffice to enable the imprisoned to recover from the exhaustion of their last "drunk," and to send them forth recruited, invigorated, and fit to recommence their intoxicating indulgence. Such penal treatment of a pathological condition is calculated to confirm and not to cure the inebriate habit. The establishment of homes at the public charge, for the scientific care of these police-court *habitués*, would be at once more economical and more effectual than the existing inefficient and expensive system.—*British Medical Journal*.

ALCOHOLIC AND TUBERCULAR NEURITIS.—The frequent concurrence of phthisis or tuberculosis with the alcoholic habit, the common association of the signs and symptoms of neuritis with phthisis, and of phthisis with hob-nailed liver and its congener, granular kidneys, have set pathologists thinking on the possible explanation of the undoubted relationship. But it is necessary to exercise much caution in unravelling the etiological threads, because it is certain that alcohol (or its constituents) is not the only producer of fibrous tissue, whether in the liver, nerves, or kidneys. We are rapidly coming to the conclusion that almost any irritant, however originated (whether extrinsic or intrinsic), possesses the same powers as the product of the fermentation of grapes. A fatty liver has been observed with healthy kidneys, or at least only containing scattered tubercles, whilst the peripheral nerves have shown typical changes of alcoholic neuritis, in a case of miliary tuberculosis, where the history of alcoholism rested on the surest of bases. Certain cases of alcoholism and phthisis, in which the nerves of the limbs have been free from disease, but the liver and kidneys have been cirrhotic and the arteries sclerosed, have also been observed. That much remains to be done to clear up these strange results of alcoholism and tubercle is obvious, and too much care cannot be exercised in their study.—*Lancet*.

British Medical Temperance Association.

—o—

President.

DR. B. W. RICHARDSON, F.R.S.

CONDITIONS OF MEMBERSHIP.

Personal abstinence from all intoxicating liquors as beverages. Every registered or registerable British or Irish medical practitioner is eligible.

ANNUAL SUBSCRIPTION. Not less than Five Shillings.

ENGLISH BRANCH.

Honorary Secretary.

Dr. J. J. RIDGE, Enfield, Middlesex.

NEW MEMBERS.

Dr. CAMPBELL, London, N.W.

Dr. LAIRD, London, E.

Dr. MAXWELL, London, N.

Dr. ROE, London, E.

Dr. TROTTER, Coleford.

NEW ASSOCIATES.

Mr. R. A. DAVIDSON, Queen's College, Birmingham.

Mr. E. P. STAPLES, St. Mary's.

SCOTTISH BRANCH.

President—Professor MCKENDRICK.*Honorary Secretary and Treasurer.*

Dr. P. A. YOUNG, 25, Manor Place, Edinburgh.

IRISH BRANCH (CENTRAL).

President—Deputy Surgeon-General F. L. G. GUNN.*Honorary Secretary and Treasurer.*

Dr. J. W. BOYCE, Blackrock, Dublin.

NEW MEMBER.

Dr. C. D. JONES, Dublin.

NORTH OF IRELAND BRANCH.

President.—Brigade Surgeon F. E. M'FARLAND.*Honorary Secretary and Treasurer.*

Dr. W. G. MACKENZIE, 92, Richmond Terrace, Belfast.

Enfield, June, 1889.

J. J. RIDGE, M.D., *Hon. Sec.*

THE THIRTEENTH ANNUAL MEETING.

THE annual meeting of the members of the Association was held in the rooms of the Medical Society of London; Chandos Street, on Tuesday, 28th May, under the presidency of Dr. B. W. Richardson, F.R.S.

After the minutes of previous meetings had been read, Dr. RIDGE, Hon.

Secretary, presented the Annual Report as follows:—

There have been considerable changes in the membership of the Association during the past year. The following table shows the present position, compared with last year's statistics.

	MEMBERS.		ASSOCIATES.	
	1887-8.	1888-9.	1887-8.	1888-9.
England and Wales ...	244	253	33	43
Scotland	55	51	26	23
Ireland (Central)	46	42	51	43
Ireland (North)	33	42	5	—
Abroad	9	14	—	—
Total	387	402	115	109

There have been twenty-eight new members enrolled during the year, all, of course, total abstainers, but there have been several deaths and withdrawals, so that the net increase is fifteen. There has been a slight diminution in the number of Associates; not, however, in England, since the number of English Associates has increased by ten. The diminution is chiefly due to the fact that some have taken their diplomas and become members. This is a development which we regard with very great satisfaction, and we congratulate those members who are thus starting their medical career with sound views as to the alcohol habit and a clear and safe position with regard thereto. So many medical men have been wrecked in their career through intoxicating liquor that we cannot but feel that those who thus start as total abstainers have one more important guarantee of an honourable and prosperous career. To this end we desire to see the Association increase even more rapidly in number and in influence, and that every medical practitioner should realise the importance of making a practical protest against the insidious and dangerous habit of alcohol-drinking, and should rally together to exert a wider and more public influence.

The Association has sustained a great loss in the removal, by death, at the ripe age of over fourscore years, of Dr. McCulloch, one of its Vice-Presidents, who for fifty years advocated fearlessly the Temperance cause in Scotland when it was far more unpopular than it is now. Your Council sent a letter of condolence to

the bereaved family in the name of the Association.

Professor Simpson, of Edinburgh, a member of the Association, has been elected a Vice-President, and Dr. Hingston Fox, of London, and Dr. Vacher, of Birkenhead, members of the Council.

During the year the following papers have been read at the general meetings:—

1. On "The Alcohol - habit and Medical Authority," by Dr. H. W. Williams;

2. On "The influence of Alcohol on persons of different Races," by Dr. B. W. Richardson;

3. A report "On Alcohol and the consumption of Alcohol in France, from the report to the Senate," from a committee consisting of Dr. Drysdale, Surgeon - Major Pringle, and H. A. W. Coryn, Esq.; and

4. A paper "On Toxic Hysterical Paralysis," by Dr. W. Pearce.

At the last annual meeting it was reported that a considerable number of signatures had been obtained endorsing the three medical declarations which have been published during the last fifty years. It was felt by your Council that more signatures might be obtained by personal application, and after considerable difficulty and delay a gentleman has been found who is at present engaged in this work with good promise of success. Already about 600 names have been obtained, and your Council felt that it would be better to postpone publication while there was hope of an important addition to the influence of the declaration.

By the kindness of the President and Mrs. Richardson a conversazione was recently held at their house to which all the associates and members were invited. A good many of the associates attended, and your Council feel it to be important in this and other ways to interest the students in the temperance cause. To this end it has been resolved to offer two prizes of ten and five guineas to be competed for at the beginning of 1890, by medical students in their third year; the subject being the action of alcohol on the body. Special subscriptions are invited for this important object.

Your Council regret that for the first time there is a small balance due to the treasurer, and also an account of nearly £10 owing for Journals. This is due to the fact that a considerable number of members have omitted to send their subscriptions for the past year; when these are paid there will be quite enough to meet all our obligations, and your Council feel sure that the influence which this Association wields, both among members of the profession and among the general public, as a medical protest against the use of intoxicating beverages, will not be allowed to decline through lack of the necessary funds. It must be remembered that each subscriber of five

Dr.	£	s.	d.
To Balance in hand May, 1888	11	11	11
„ Subscriptions received	56	2	0
„ Balance due to Treasurer	1	6	3

£69 0 2

shillings really contributes but three to the working expenses, as the remainder is returned in the value of the quarterly *Journal*. The Honorary Secretary is frequently applied to from all parts of the country for facts and replies to medical and lay opponents of the Temperance cause, and your Council feel that an Association like this, consisting of medical abstainers, can exert a unique influence in favour of total abstinence; and that if a voice were not thus raised within the profession it would be a great dereliction of duty on our part.

During the past year the Association for the first time took a direct part in the Annual Temperance Breakfast, which has usually been arranged by the National Temperance League; but at the Glasgow meeting it was conducted by the Scottish Branch in conjunction with the Scottish Temperance League, and for this purpose the Council voted the sum of £5. Your Council confidently expects that all deficiency will be speedily supplied, and the work and influence of the Association be augmented as its numbers continually increase.

Dr. THOMAS MORTON, treasurer, submitted the financial statement as follows:—

Cr.	£	s.	d.
By <i>Medical Temperance Journals</i>			
(3 quarters)	28	11	4
„ Printing and Stationery	9	13	0
„ Advertisements	11	16	4
„ Stamps, Post Cards, and Wrappers	4	4	6
„ Do. in connection with inquiry as to Alcohol in Hospitals	1	11	6
„ Hire of Medical Society's Rooms, and Attendance	7	13	0
„ Copy of Medical Directory	0	10	6
„ Contribution to expense of Temperance Breakfast at Glasgow Meeting of British Medical Association	5	0	0

£69 0 2

Examined and found correct,

W. J. CORYN, }
R. LORD, M.D., } *Auditors.*

May 28, 1889.

The report and balance sheet were adopted, and a vote of thanks to the officers and auditors, moved by Dr. Gray, was cordially passed, after which the auditors and most of the officers were re-elected.

Dr. J. J. RIDGE read a paper entitled, "Is Total Abstinence a Cause of Premature Death?"

Dr. NORMAN KERR, in moving a vote of thanks to Dr. Ridge, remarked that the lie which had been based on the Collective Investigation Committee's Report having got the start of its refutation, it was almost impossible to overtake it, and he regarded the report as utterly valueless, because no reliable conclusions could be drawn from such insufficient data. The lesson to be learned was that they should all be exceeding careful in dealing with imperfect statistics.

Surgeon-Major PRINGLE, M.D., seconded the vote of thanks, which was supported by Dr. JOHN MOIR, who stated that at the Beckton Gas Works, employing 4,000 men, the average sickness was fourteen days per annum, about double that experienced in the Rechabite Order.

The PRESIDENT united with others in the opinion that the statistics of the Collective Investigation Committee should never have been published, because the figures pointed to conclusions which the Committee knew were incorrect. He thought they were greatly indebted to Dr. Ridge for his valuable paper, and put the vote of thanks, which was cordially passed, and acknowledged by Dr. Ridge.

"A New View of the Action of Alcohol" was given in a paper contributed by Dr. R. M. BUCK, Medical Superintendent of the Lunatic Asylum, London, Ontario, which, with Dr. Ridge's paper, is given in full elsewhere.

In a short discussion which ensued Dr. RIDGE stated that he was not prepared to admit without further evidence that alcohol acted as a direct stimulant. He regarded it as proved that alcohol rendered protoplasm more sluggish, as shown by the experiments on *amebæ*. He could not but believe that alcohol acted in the same

way on nerve protoplasm, and that any manifestations of increased force were due either to the paralysis of inhibitory ganglia, or increased blood supply by paralysis of the sympathetic. He asked Dr. Richardson if in his experiments on medusæ he had ever found their movements stimulated by alcohol.

The PRESIDENT replied that he had not, but was about to make further experiments. There was certainly a strong affinity between the nervous tissue and alcohol. If a sheep's brain were saturated with alcohol it was impossible to get back more than about three-fourths of the alcohol. Dr. Percy had made the same observation; even in death some combination takes place. The paper was most suggestive, and more would be heard of it hereafter.

Dr. RIDGE moved, and Dr. PEARCE seconded a vote of thanks to Dr. Buck, which was carried unanimously.

ANNUAL MEETING OF THE IRISH CENTRAL BRANCH.

THE annual general meeting of the Irish Branch of the Association was held on Tuesday, June 4, in the Board Room of the College of Surgeons, Dublin. Deputy Surgeon-General Joynt presided. Dr. Cosgrave read the fifth annual report, which stated that the number of members on the roll at present was forty-one. The Council asked for sympathy and assistance in their work. On the motion of Dr. Scott, seconded by Dr. Delahoyde, the report was adopted. Dr. S. M. Thompson moved that the following gentlemen be elected officers for the next year: Irish Branch (Central): *President*, Deputy Surgeon-General F. L. G. Gunn; *Vice-Presidents*, Dr. T. Collins, Dr. J. W. Young; *Honorary Secretary and Treasurer*, Dr. Boyce; *Members of Council*, Dublin: Dr. T. Collins, Dr. Cosgrave, Dr. O'Connell J. Delahoyde, Dr. J. A. Scott, Dr. S. M. Thompson, Dr. W. J. Thompson. Country: Dr. A. Atock, Dr. Ringrose Atkins, Dr. John Eustace, Dr. Leet, Surgeon-General C. Joynt, Dr. Robert Morton.

